



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

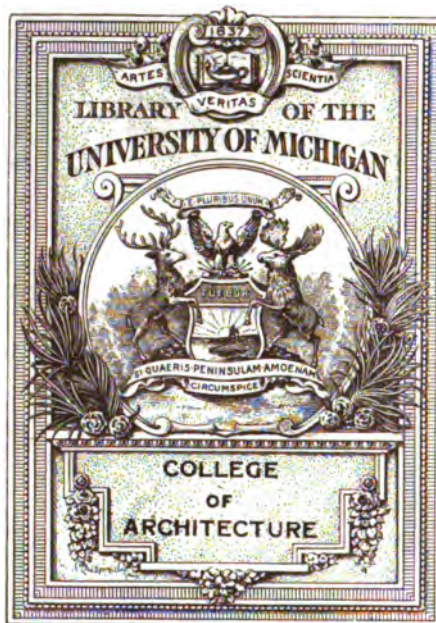
We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

B 49698 5



ARCHIVAL
LIBRARY

NA

1
A68

ARCHITECTURE AND BUILDING

A Magazine

Devoted to Contemporary Architectural Construction

ESTABLISHED 1882



VOL. XLVII

JANUARY, 1915 — DECEMBER, 1915

NEW YORK
THE WILLIAM T. COMSTOCK COMPANY
23 WARREN STREET

ARCHITECTURE AND BUILDING

VOL. XLVII

January, 1915 — December, 1915

INDEX

| ARCHITECTS. | Page | | Page |
|----------------------------------|---------------|--|--------------------------------|
| Abramson, Louis Allen..... | 21 | Osterling, F. J..... | 261 |
| Atterbury, Grosvenor..... | 391 | Parker, Thomas & Rice..... | 443 |
| Austin, Wm. E..... | 69 | Peabody & Stearns..... | 230 |
| Ballinger & Peritt..... | 406 | Peoples, U. J. L..... | 453 |
| Bartley, T. J..... | 409 | Petit, John J..... | 457 |
| Bragdon, Claude..... | 454 | Pilcher & Tachau..... | 381 |
| Brazer, C. W..... | 330, 331 | Poole, T. H., & Co..... | 224 |
| Brunner, Arnold W..... | 235 | Pope, John Russell..... | 67 |
| Buchman & Fox..... | 137 | Post, George B., & Sons..... | 89, 237 |
| Carpenter, J. E. R..... | 73 | Price & McLanahan..... | 110, 242 |
| Child, E. S..... | 339 | Reed & Stem..... | 53 |
| Comstock, David C..... | 80 | Reynolds, Marcus T..... | 211 |
| Delano & Aldrich..... | 426, 427 | Reid, Wm. B..... | 247 |
| Dewsnap, Wm..... | 81 | Rogers, Jas. Gamble, of Hale & Rog- ers..... | 131, 330, 431 |
| Dietrich, E. G. W..... | 76, 242, 268 | Rowe & Smith..... | 307 |
| Dodds, Everett S..... | 421 | Schermerhorn, C. E..... | 41, 43, 44, 460 |
| Drach, Gustav W..... | 124 | Schwartz & Gross..... | 32 |
| Fall, Charles..... | 368 | Severance & Van Alen..... | 402 |
| Fox, Benjamin..... | 462 | Seymour & Schonewald..... | 144 |
| Furness, Evans & Co..... | 233 | Smith, Henry A..... | 239 |
| Gibson, Robert W..... | 397 | Starrett & Van Vleck..... | 199, 234, 359 |
| Graham, Burnham & Co..... | 413 | Streeton, George H..... | 273 |
| Graham, E. R..... | 165, 184, 458 | Stribling & Lum..... | 454 |
| Graham, E. T. P..... | 265 | Sullivan, Louis H..... | 68 |
| Green & Wicks..... | 417 | Temple & Burrows..... | 115 |
| Greene, Jas. C..... | 283 | Townsend, Steinle & Haskell..... | 153 |
| Haefell, Walter..... | 143 | Totten, G. Oakley..... | 449, 451 |
| Hastings, Thomas..... | 61 | Trumbauer, Horace..... | 116, 295, 349 |
| Holabird & Roche..... | 109 | Trowbridge & Livingston..... | 5 |
| Howells & Stokes..... | 153 | Tracy & Swartwout..... | 263 |
| Hunt, Jarvis..... | 227, 269 | Tyler, Frank M..... | 345 |
| Hunter, Paul C..... | 111 | Urban, C. Emlen..... | 122 |
| Janssen & Abbot..... | 104, 289 | Warren & Wetmore..... | 76, 118, 148, 227, 303, 373 |
| Johnson, Arland W..... | 30 | Wendehack, D. F..... | 274 |
| Kahn, Albert..... | 445 | Wyeth, Nathan C..... | 68, 82 |
| Kimball, Thomas..... | 120 | York & Sawyer..... | 355 |
| Kimball & Roosa..... | 15 | | |
| King, Beverley S..... | 461 | ARTICLES. | |
| Kirkham & Parlett..... | 379 | About Lighting..... | 26, 51, 102, 138 |
| Kletting, Richard..... | 325 | By F. Laurent Godinez..... | 256. |
| La Farge & Morris..... | 304 | Bank Lighting..... | 256. |
| Lawlor & Haase..... | 340 | By F. Laurent Godinez..... | 385 |
| Lehman, Wm. E..... | 140 | Corner Stone, The..... | 221 |
| Lindeberg, H. T..... | 156 | By Tom Thumtack..... | 221 |
| Lord & Hewlett..... | 378 | Church Lighting..... | 221 |
| Ludlow & Peabody..... | 223 | By F. Laurent Godinez..... | 274, 315, 347, 353, 423 |
| Lundborg, E..... | 422 | Editorial..... | 1, 45, 83, 129, 163, 203, 243, |
| Maginnis & Walsh..... | 159 | By Theodore Starrett..... | 65 |
| Magonigle, H. Van Buren..... | 198 | Education in Wood Finishing..... | 28 |
| Marshall & Fox..... | 112 | By Wm. P. Comstock..... | 179 |
| Mavnicke & Franke..... | 375 | Fire Prevention..... | 85 |
| McKecknie, J. W..... | 35 | By Edward Rochle Hardy..... | 179 |
| McKenzie, Voorhees & Gmelin..... | 64 | Fire Prevention Measures in the Equi- table Building..... | 85 |
| McKim, Mead & White..... | 317, 439 | By Edward Rochle Hardy..... | |
| Mullett, A. B. & Co..... | 105 | From Mangers to Ball Rooms..... | |
| Murchison, Kenneth M..... | 85, 259 | (Gedney Farm Hotel, White Plains, N. Y.) | |
| Murphy & Dana..... | 20 | By Winnifred Harper Cooley. | |
| Myers, Christopher..... | 342 | | |

| | Page |
|---|----------|
| Hotels and Fires..... | 126 |
| By Edward Rochie Hardy..... | |
| Lighting Club Rooms..... | 456 |
| By F. Laurent Godinez..... | |
| Lighting the Equitable Building..... | 188 |
| By F. Laurent Godinez..... | |
| Mechanical Plant of the Equitable Building, The..... | 191 |
| Progressive Architectural Construction, 20, 68, 242, 274, 378, 422, 454 | |
| By Frederick Squires..... | |
| Remaking a Building for a Bank..... | 247 |
| Holyoke National Bank, Holyoke, Mass. By M. R. C. | |
| Repeal of the Tarsney Act..... | 278 |
| By Tom Thumtack..... | |
| Restaurant Lighting..... | 336 |
| By F. Laurent Godinez..... | |
| School Room Lighting..... | 365, 400 |
| By F. Laurent Godinez..... | |
| Temperament..... | 206 |
| By Tom Thumtack..... | |
| The Tectarch..... | 48 |
| By Tom Thumtack..... | |
| "Yama Shiro"..... | 213 |
| By Franklin M. Small..... | |

BANKS.

| | |
|--|-----|
| Banking House of J. P. Morgan & Company..... | 5 |
| Trowbridge & Livingston, Architects. | |
| Brooklyn Trust Company, Brooklyn, N. Y. York & Sawyer, Architects. | 355 |
| Corn Exchange Bank, 86th Street Branch, New York | 156 |
| H. T. Lindeberg, Architect. | |
| First Bridgeport National Bank, Bridgeport, Conn. | 263 |
| Tracy & Swartwout, Architects. | |
| First National Bank of Allegheny, Pittsburgh, Pa. | 261 |
| F. J. Osterling, Architect. | |
| Holyoke National Bank, Holyoke, Mass. Wm. B. Reid, Architect. | 247 |
| Manufacturers' & Traders' National Bank, Buffalo, N. Y. | 233 |
| Furness, Evans & Co., Architects. | |
| Murchison National Bank, Wilmington, N. C. | 259 |
| Kenneth M. Murchison, Architect. | |
| New Quarters of the Chase National Bank | 15 |
| Kimball & Roosa, Architects. | |

CHURCHES.

| | |
|--|-----|
| St. Edward's Church, Brooklyn, N. Y. | 64 |
| St. Henry's Church, Bayonne, N. J. | 224 |
| T. H. Poole & Co., Architects. | |
| St. James' Presbyterian Church, New York | 223 |
| Ludlow & Peabody, Architects. | |
| St. Matthew's Church, Brooklyn, N. Y. | 64 |
| McKenzie, Voorhees & Gmelin, Architects. | |
| St. Raphael's Church, New York | 273 |
| George H. Streeton, Architect. | |

CLUB BUILDINGS.

| | |
|--|-----|
| ✓ Bankers' Club of America, The..... | 184 |
| E. R. Graham, Architect. | |
| Colony Club, New York City..... | 426 |
| Delano & Aldrich, Architects. | |
| Congressional Club, Washington, D. C. | 449 |
| George Oakley Totten, Architect. | |
| Detroit Athletic Club, Detroit, Mich. | 445 |
| Albert Kahn, Architect. | |
| ✓ Elks' Lodge, Brooklyn, N. Y. | 199 |
| H. Van Buren Magonigle, Architect. | |
| Harvard Club, New York City..... | 439 |
| McKim, Mead & White, Architects. | |
| Harvard Club, Boston, Mass. | 443 |
| Parker, Thomas & Rice, Architects. | |
| Knickerbocker Club, New York City..... | 427 |
| Delano & Aldrich, Architects. | |
| Moose Club House, Pittsburgh, Pa. | 453 |
| C. J. L. Peoples, Architect. | |

| | Page |
|---|------|
| Masonic Temple, Columbus, Ohio..... | 454 |
| Stribling & Lum, Architects. | |
| Masonic Temple, Pittsburgh, Pa. | 289 |
| Janssen & Abbot, Architects. | |
| University Club, Washington, D. C. | 451 |
| George Oakley Totten, Architect. | |
| Yale Club, New York City..... | 431 |
| James Gamble Rogers, Architect. | |
| ✓ Young Women's Hebrew Association..... | 21 |
| Louis Allen Abramson, Architect. | |

DETAIL PLATES.

| | |
|--|-----|
| Country House of Stucco..... | 274 |
| D. F. Wendehack, Architect. | |
| Delaware County Court House, Media, Pa. | 330 |
| C. W. Brazer, Architect. | |
| Hotel Marlborough-Blenheim, Atlantic City, N. J. | 242 |
| Price & McLanahan, Architects. | |
| House for Pierrepont B. Foster, New Haven, Conn. | 20 |
| Murphy & Dana, Architects. | |
| Motive of Pavilion, New Orleans Post Office | 330 |
| H. D. Hale & James Gamble Rogers, Architects. | |
| Residence of S. Harkness..... | 378 |
| Lord & Hewlett, Architects. | |
| Small Office Building..... | 68 |
| Louis H. Sullivan, Architect. | |
| Store Front Construction, Bronze & Marble | 144 |
| Seymour & Schoneveld, Architects. | |
| Wainscot and Drinking Fountain of Grueby Tile | 454 |
| Claude Bragdon, Architect. | |
| Warehouse for The Larkins Co. | 406 |
| Ballinger & Perrot, Architects. | |

FACTORY, LOFT, MERCANTILE AND OFFICE BUILDINGS.

| | |
|---|-----|
| Ames Store, Cleveland O. | 359 |
| Starrett & Van Vleck, Architects. | |
| Arnold, Constable & Co., Store, New York. | 409 |
| T. J. Bartley, Architect. | |
| Bonwit Teller & Co. Building, New York. | 153 |
| Howells & Stokes, Architects. | |
| Brooks Brothers' Building, New York. | 304 |
| La Farge & Morris, Architects. | |
| Building at 37th Street and 5th Avenue, New York | 373 |
| Warren & Wetmore, Architects. | |
| Building for Montgomery, Ward & Co., Kansas City, Mo. | 35 |
| J. W. McKecknie, Architect. | |
| Building for the Texas Co., Houston, Texas | 303 |
| Warren & Wetmore, Architects. | |
| Building at 26th Street and Broadway, New York | 375 |
| Maynicke & Franke, Architects. | |
| Circle Building, New York, The..... | 283 |
| Jas. C. Greene, Architect. | |
| Concrete Manufacturing Buildings in Hoboken, N. J. | 368 |
| Charles Fall, Architect. | |
| Delaware & Hudson Co. Office Building, Albany, N. Y. | 211 |
| Marcus T. Reynolds, Architect. | |
| Equitable Building, The..... | 165 |
| E. R. Graham, Architect. | |
| First National-Soo Line Building, Minneapolis, Minn. | 397 |
| Robert W. Gibson, Architect. | |
| Goelet Building, 402 Fifth Avenue, New York | 76 |
| Warren & Wetmore, Architects. | |
| Hallenbeck - Hungerford Building, New York | 69 |
| William E. Austin, Architect. | |
| Hasco Building, New York..... | 143 |
| Walter Haefell, Architect. | |
| Hurt Building, Atlanta, Ga. | 73 |
| J. E. R. Carpenter, Architect. | |
| Larkin Warehouse, Philadelphia, Pa. | 406 |
| Ballinger & Perrot, Architects. | |

| | Page |
|---|------|
| May Co. Store, Cleveland, Ohio, The.... | 413 |
| Graham, Burnham & Co., Architects. | |
| Office Building at 8 W. 40th Street..... | 199 |
| Starrett & Van Vleck, Architects. | |
| Phoenix Hermetic Co. Building, Brook- lyn, N. Y..... | 239 |
| Henry A. Smith, Architect. | |
| Rogers Peet Co. Building, New York.... | 153 |
| Townsend, Steinle & Haskell, Archi- tects. | |
| Rosenbaum Co. Department Store, Pitts- burgh, Pa. | 269 |
| Jarvis Hunt, Architect. | |
| South Ferry Building, New York..... | 234 |
| Starrett & Van Vleck, Architects. | |
| Standard Arcade, New York..... | 402 |
| Severance & Van Alen, Architects. | |
| Times Annex Building..... | 137 |
| Buchman & Fox, Architects. | |
| Transit Annex, 10 East 43d Street, N. Y. | 237 |
| Geo. B. Post & Sons, Architects. | |
| Vanderbilt Concourse Offices, New York. | 148 |
| Warren & Wetmore, Architects. | |
| Victoria Building, New York..... | 32 |
| Schwartz & Gross, Architects. | |
| Widener Building, Philadelphia, Pa..... | 349 |
| Horace Trumbauer, Architect. | |

HOTELS.

| | |
|--|-----|
| Allerton, New York City..... | 111 |
| Paul C. Hunter, Architect. | |
| Brunswick, Lancaster, Pa..... | 122 |
| C. Emlen Urban, Architect. | |
| Black Hawk, Davenport, Ia..... | 115 |
| Temple & Burrows, Architects. | |
| Cafe Savarin, Equitable Building, New York City | 458 |
| E. R. Graham, Architect. | |
| Capitol Park Hotel, Washington, D. C.. | 105 |
| A. B. Mullett & Co., Architects. | |
| Fontenelle Hotel, Omaha, Neb..... | 120 |
| Thomas R. Kimball, Architect. | |
| Gedney Farm Hotel, White Plains, N. Y. | 85 |
| Kenneth M. Murchison, Architect. | |
| Gibson, Cincinnati, O..... | 124 |
| Gustav W. Drach, Architect. | |
| Muehlebach, Kansas City, Mo..... | 109 |
| Holabird & Roche, Architects. | |
| Morrison Hotel, Chicago, Ill..... | 112 |
| Marshall & Fox, Architects. | |
| Pantlind Hotel, Grand Rapids, Mich.... | 118 |
| Warren & Wetmore, Architects. | |
| Ritz-Carlton, Philadelphia, Pa., Enlarged | 116 |
| Horace Trumbauer, Architect. | |
| Stalder, Detroit, Mich..... | 89 |
| George B. Post & Sons, Architects. | |
| Traymore, Atlantic City, N. J..... | 110 |
| Price & McLanahan, Architects. | |
| William Penn Hotel, Pittsburgh, Pa.... | 104 |
| Janssen & Abbott, Architects. | |

HOSPITALS.

| | |
|---|-----|
| Burke Foundation for Convalescents, White Plains, N. Y..... | 317 |
| McKim, Mead & White, Architects. | |
| Columbia Hospital, Washington, D. C.. | 82 |
| Nathan C. Wyeth, Architect. | |
| General Dispensary and Emergency Hos- pital, Washington, D. C..... | 68 |
| Nathan C. Wyeth, Architect. | |

MISCELLANEOUS.

| | |
|--|-----|
| Devinclare Residence, New York..... | 340 |
| Lawlor & Haase, Architects. | |
| High School of Commerce, Springfield, Mass. | 379 |
| Kirkham & Parlett, Architects. | |
| Keeney Theatre, Brooklyn, N. Y..... | 140 |
| Wm. E. Lehmann, Architect. | |
| Private Art Gallery of Mr. T. F. Ryan, New York | 61 |
| Thomas Hastings, Architect. | |
| Proctor's Theatre, Troy, N. Y..... | 30 |
| Arland W. Johnson, Architect. | |
| Regis High School, New York..... | 159 |
| Maginnis & Walsh, Architects. | |

| | Page |
|--|------|
| South Park High School, Buffalo, N. Y... 417 | |
| Greene & Wicks, Architects. | |
| Station and Office Building of the Michi- gan Central Railroad, Detroit, Mich... 53 | |
| Reed & Stem and Warren & Wet- more, Architects. | |
| Store Fronts | 144 |
| Seymour & Schonewald, Architects. | |
| Two Fine Colonial Fireplaces..... | 44 |
| C. E. Schermerhorn, Architect. | |
| Union Passenger Station, Kansas City, Mo. | 227 |
| Jarvis Hunt, Architect. | |

PUBLIC BUILDINGS.

| | |
|--|-----|
| Annex to the City Hall, Boston, Mass.. 265 | |
| E. T. P. Graham, Architect. | |
| Delaware County Court House, Media, Pa. | 331 |
| C. W. Brazer, Architect. | |
| Elighth Coast Artillery Armory, New York | 381 |
| Pilcher & Tachau, Architects. | |
| Post Office, New Orleans, La..... | 131 |
| Jas. Gamble Rogers, of Hale & Rogers, Architects. | |
| Public Library at Harrisburg, Pa..... | 339 |
| E. S. Child, Architect. | |
| Russell Sage Foundation Building, New York | 391 |
| Grosvenor Atterbury, Architect. | |
| Stadium at the City College of New York. | 235 |
| Arnold W. Brunner, Architect. | |
| Scottish Rites Temple, Washington, D. C. | 67 |
| John Russell Pope, Architect. | |
| U. S. Custom House, Boston, Mass..... | 230 |
| Peabody & Sterns, Architect. | |
| Utah State Capitol, Salt Lake City, Utah. | 325 |
| Richard Kletting, Architect. | |
| Widener Memorial Library, Cambridge, Mass. | 295 |
| Horace Trumbauer, Architect. | |

RESIDENCES.

| | |
|--|-----|
| Bow Marchioness, Summit, N. J..... | 376 |
| Bungalow at Boulder, Col..... | 422 |
| E. Lundborg, Architect. | |
| Cottage at East Orange, N. J..... | 162 |
| Design for Suburban House..... | 80 |
| David C. Comstock, Architect. | |
| House at Bryn Mawr, Pa..... | 460 |
| C. E. Schermerhorn, Architect. | |
| House Designs | 346 |
| House at Catskill, N. Y..... | 242 |
| E. G. W. Dietrich, Architect. | |
| House at Cynwyd, Pa..... | 41 |
| C. E. Schermerhorn, Architect. | |
| House at Elmhurst, Ill..... | 378 |
| House at Jamestown, N. Y..... | 268 |
| E. G. W. Dietrich, Architect. | |
| House at Omaha, Neb..... | 421 |
| Everett S. Dodds, Architect. | |
| House of Mr. R. N. Thatcher, Montclair, N. J..... | 342 |
| Christopher Myers, Architect. | |
| House at White Plains, New York..... | 461 |
| Beverly S. King, Architect. | |
| House on Jamaica Way Boston, Mass... 462 | |
| Benjamin Fox, Architect. | |
| Krys-Kryngle Cottage at Wyoming, N. J. | 241 |
| Medium Sized Houses for the Suburbs.. 43 | |
| C. E. Schermerhorn, Architect. | |
| Ormston Estate of Mr. J. E. Aldred.... 311 | |
| Rowe & Smith, Architects. | |
| Residence Design | 78 |
| E. G. W. Dietrich, Architect. | |
| Residence of E. M. Mulford..... | 309 |
| Rowe & Smith, Architects. | |
| Residence of Mr. F. C. Sayles..... | 306 |
| Rowe & Smith, Architects. | |
| Residence of Mr. C. F. Schmidt..... | 307 |
| Rowe & Smith, Architects. | |
| Stucco Residence at Los Angeles, Cal... 345 | |
| Frank M. Tyler, Architect. | |
| Suburban Residence | 81 |
| Wm. Dewsnap, Architect. | |

January, 1915

ARCHITECTURE AND BUILDING

Banking House of J. P. Morgan & Company

Chase National Bank

Designs of Small Houses

Large Detail Plate

Editorial—The Story Continued

Theodore Starrett

Fire Prevention

Edward Rochie Hardy

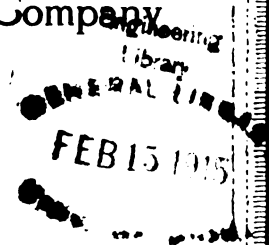
About Lighting

F. Laurent Godinez

Published by
The William T. Comstock Company
New York

20 c. a copy.

\$2.00 a year.





"Globe" Ventilators

combine highest efficiency with strength and durability.

Made in heavy galvanized iron, copper and Toncan metal and with glass tops when desired.

Send for Model Demonstrating Operation

Globe Ventilator Co.
Troy, New York



STUCCO Made With



IS Waterproof & NON-CRACKING



Send a Postal for Book 91

The Standard Paint Co. New York
Boston
Chicago

Capital, \$5,000,000.00



Like Caesar's wife,
"F-S" products are
above suspicion

"Ef-Es-Co" is thoroughly reliable when you want rich, artistic effects on walls, ceilings, interior woodwork, metal surfaces, etc. Working like paint, wearing like enamel, it gives a dead flat surface—hard, smooth and washable. Pure white or various popular shades.

FELTON, SIBLEY & CO., Inc.

Manufacturers of Colors, Paints and Varnishes since 1863

136-140 North Fourth St.

Philadelphia

ARCHITECTURE AND BUILDING

A Magazine Devoted to Contemporary Architectural Construction

WILLIAM P. COMSTOCK
Managing Editor

THEODORE STARRETT
Contributing Editor

Volume XLVII

JANUARY, 1915

Number 1

Somewhere in this broad land there are, I hope, a few folks who remember that last month I was telling a story about a hotel whose shrewd prospective landlord undertook to cut down his rental by eliminating a certain useful, but little appreciated, functionary known as the builder, and by sandbagging the architect into doing the whole job—architecture and building both.

Such readers are, of course, interested in learning how it all came out, and I now assure them that their curiosity is shortly to be satisfied.

But before I go on with the story I choose to ruminate for a few brief lines on the subject of real estate, of which I apprehend building is regarded as a part.

Real estate, I sometimes think, especially in New York City where it is worth the most—where the greatest fortunes have been made in it—real estate, I say, ought to be called imaginary estate. Some day some philosopher will discover this and prove it.

I will content myself by referring to a case of a plot of ground with a building on it which four years ago was sought by a buyer with great eagerness. He offered four hundred thousand dollars for it. The owner wanted four hundred and fifty thousand. The offer was raised to four hundred and twenty-five thousand dollars and later to four hundred and thirty-five thousand dollars. The owner held out for his price, four hundred and fifty thousand dollars, and there the negotiation ended.

The ground still belongs to its owner of four years back. It was recently appraised at two hundred and fifty thousand dollars. I might give some more details that would show that this appraisal is about right, but I won't; it is not necessary.

There was a shrinkage in four years of two hundred thousand dollars in the value of this piece of real (!) estate.

Thousands, or surely hundreds, of instances could be found in New York City of this unreality or ephemerality of real estate.

And the building part of these properties what of it? Oh, the building had nothing to do with it. Though probably the costliest building work in the world, with the exception of San Francisco, makes productive the real estate of New York City it has, as a rule, little or nothing to do with the value of the property.

I could point to a dozen million-dollar buildings in the highly developed districts of the city that had better never been built—useless encumberers of the ground. And another dozen monuments have been torn down to make way for supposedly better structures, torn down and big money paid to get them out of the way, and every penny paid for them as dead a loss as the money you paid for last year's groceries, as far as the buildings themselves were concerned.

A curious thing, illustrating the unequal distribution of this world's goods and benefits, is the fact that as I write this I read of a strike riot here in the metropolitan district where operatives get only \$1.60 per day and want \$2.00, while in the building trade all is stagnation because New York is over-supplied with buildings constructed by workmen whose wages run from three to five and six dollars per day.

But that really has nothing to do with this case except as showing the rare need of high ability in the task of managing building construction and of the equally rare need of all hands co-operating to bring some real business ability into this interesting game.

Money spent on buildings is consumption, not investment; it may be slow consumption, but consumption it is, and the user of a building, whether owner or tenant, is the consumer.

Grant this or not, what do you think of real estate, with all its ups and downs, being made productive by buildings which are built on guesses and irresponsible sayso, with no forethought or guarantee that will protect the investor as to the amount of his investment?

What do you think of the judgment of these owners or tenants or whoever they are who try to save at the spigot by doing without builders and waste at the bung—and all the staves, too!—as a result?

And now I'll finish the story begun last month.

I was telling how an owner decided to build a great building for a certain tenant after having made an arrangement with a builder to construct it by a certain date and at a fixed guaranteed cost, which arrangement the tenant upset because he did not want the builder to make the usual twenty-five per cent. profit.

This tenant, it seems, intended to make the architect be the builder, and thereby really EARN his five per-cent. It was in the days when five per cent. was the union rate for architectural services.

There followed a merry war. The architect didn't want to be put to the trouble of parcelling out the work and being de facto builder; it was something he had never done before; besides he was not paid for it, and, remarkable though the statement may seem, he could not afford to do it. But time was flying. The building had been started. First the foundations, then the steel, which cost the pretty

penny of over \$400,000; then came the mason work which cost another pretty penny—half a million dollars. It had to be gone through with.

I never knew exactly how it came out, but I have good reason to believe that the building cost a cold million and a half more than the tenant had expected, and I knew it took almost four years to finish it, although the builder had offered to finish it in a year and a half.

Cupidity, as usual,—this time not of the owner, but of the tenant—was at the bottom of it.

I have often wondered how the tenant made out. He said at the beginning that to pay rent on the builder's original offer would ruin the enterprise. What could he have done with his building cost doubled?

An absolutely bootless question, but interesting when we are discussing the subject of blaming the architectural profession for disappointing building investments.

I could turn around and tell about architects who have been responsible for disappointing building investments, but, of course, an architect is not the architectural profession.

I am thinking of the alternative suggestion of the gentleman from Minneapolis of eliminating the architect entirely and employing a construction company to furnish the architectural design along with the rest of the undertaking. This is an interesting suggestion—very.

Some owners are big enough, and know enough, to sit down with a construction company, as people seem to like to call them, and arrange a contract on this basis. No competition is possible in a case of this kind and the owner who does business on that plan will have a chance to talk with a half a dozen architects highly recommended by warm personal friends, every one of whom will tell him what a mistake he is making. A half a dozen builders, who did not get the job or who are not constituted on the construction company plan, will tell him the same. There are so few of these so-called construction companies that, as one might say, the whole world is against them.

Besides, the owner who listens to a proposition from a construction company to build for a guaranteed cost anything that runs into the hundreds of thousands of dollars thinks not of what he is to get for his money or whether it is something that is worth it (a perfectly easy question to decide), but rather of how much the builder is going to make, and, as I have said, there are a half dozen architects and a half dozen builders to tell him.

Happy the construction company that gets its contract for building, including architectural services, signed up before the world knows.

As I have said before, there is a System in building construction; or rather, there was. Mystery was part of the building game and the doings between employers and workmen were secret; no outsiders must know anything about them. It was a case of you tickle me here and I'll tickle you there, the consideration to the workmen being that they should have practically whatever wages they might ask, and the consideration to the bosses being that they should be enabled to put over their little schemes with the help of the men.

It was the famous walking delegate game, now dead.

The System flourished by flattering and suborning, where possible, the architects, who were the ones that had the jobs. The architects knew no more about the building business than these builders could possibly help. It was as much a mystery to them as to the rest of the world.

There was no one in this System to represent the interest of the owners, and that is where the whole thing fell down. Owners began to distrust architects—not in the bad sense, but in the sense of not believing in their ability to handle the situation. The architects, some of them, began to see that there was something rotten in the State of Denmark and the day of the business architect arrived. Many began the practice of getting men from the ranks of the builders to supply them with knowledge of the building game.

What General Grant said of the way to get rid of a bad law by enforcing it, what the Good Book says about sowing the wind to reap the whirlwind, has come to pass upon the building fraternity which has attempted to preserve an antiquated idea. It was the unworthiness of that kind of builders that caused the attempts to do without them.

Some architects have tried to be builders and have done very well; some builders have supplied architecture and have done very well; but the builders that got along by flattering and bribing the architects and using them to put over deals where the owner was bled, they are going. A new kind of builder has appeared that would help the architect if the architect wished it.

Architects have the advantage in this game that they are the ones to whom the owners turn first. If they could but know how the construction company, as it is called, can help them, or better still, if they could but know that there is an easy way in which their profession can get the good and leave the bad, with the help of the construction company, or of capable up-to-date builders, they would be surprised.

Out of my own experience I make this statement, that the double responsibility of builder and architect is too much for one institution. It is more than flesh and blood can stand, especially in the face of the trade union conditions that bottom building construction. The builder has more than he can attend to in management alone, in bringing about the required economy of building construction—economy of time and of money spent. The architect, with the work of translating the owner's requirements, has all he can attend to. Why should he try to be a builder, too?

Theodore Starrett.

BANKING HOUSE OF J. P. MORGAN & CO.

TROWBRIDGE & LIVINGSTON, Architects

The new building at the corner of Broad and Wall streets, which was erected for the firm of J. P. Morgan & Co., by Messrs. Trowbridge and Livingston, is built of pink Tennessee marble in great blocks, making a solid masonry wall more than three feet thick. These blocks are 3 feet high also, and run from 7 feet to 22 feet long, the largest weighing in finished state about 35 tons. The beauty of the stone itself, hone finished, which brings out the color, texture and veining, is the principal ornament of the façades which are otherwise plain except for the ornament on the story division courses.

The foundations are of the continuous coffer dam type, of concrete about 7 feet in thickness, carried down to bed rock about 65 feet below street level. The frontage on Wall Street is 113 feet, and on Broad Street 157 feet, and the height is about 80 feet. The first story is 30 feet in height and the great windows which light it are 22 feet high by 12 feet wide, double hung sash of huge proportions.

The area of the first story banking room is about 15,000 square feet, an area uninterrupted by columns, the upper part of the building being hung from a series of steel trusses fourteen feet in depth which have a span of about one hundred feet between the walls and which are supported by steel columns built up in the marble walls. From these main trusses all the floors above the ceiling of the main banking room are hung.

There are four principal stories, with intervening mezzanines in part, making nine floors in all. In addition there are three basements.

The first story is entered from the corner of Broad and Wall streets and contains the main banking room. It is finished in selected pink Tennessee marble with the walls paneled in mosaic. The screen surrounding the public space is ornamented by a freize, the work of Charles Keck which represents the progress of human knowledge.

Upon one side, the industries of the sea, the earth, and the air are depicted

through the medium of Greek mythology and on the other side the sculptor has borrowed from the North American Indian mythology the legend of Hiawatha who is supposed to have given to the Indians their knowledge of agriculture and the arts. The floor is a marble mosaic of rich colors and intricate workmanship. A circular glass dome about 35 feet in diameter lights the interior from a court above.

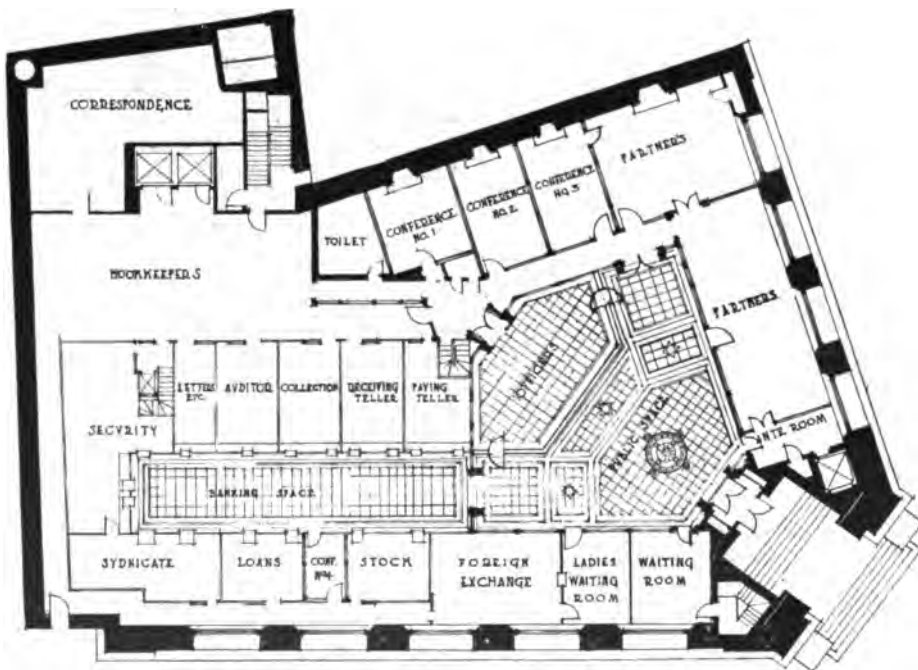
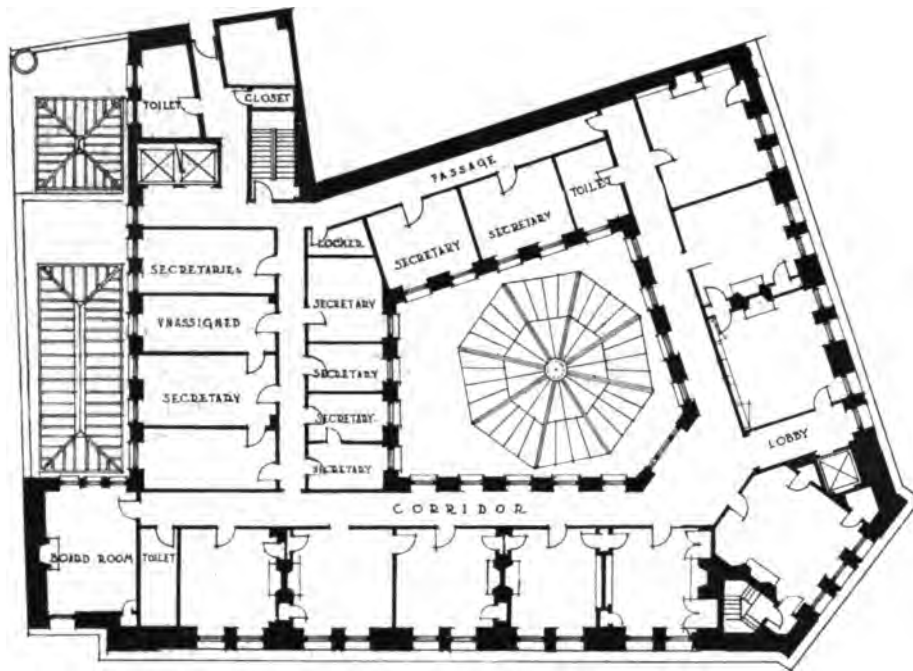
The second story contains the private rooms of the partners of the firm and the offices of their secretaries.

The third story contains two dining rooms and a kitchen in addition to extra working space. In the fourth story there are bed rooms for use of the members of the firm and an outside terrace 24 by 42 feet which may be covered by awnings providing an outside dining room and place for conferences in warm weather.

The vault is 18 feet wide by 22 feet deep by 27 feet high inside, and is divided into three stories; its walls are $2\frac{1}{4}$ feet thick, comprising a 4 inch nickel steel armor-plate lining, surrounded with rock concrete, reinforced with double and treble sections of 125 pound nickel steel rails interlocked at all corners and bound with multiple angle frames and tie rods; the exterior is finished with a steel panelled cladding.

The main entrance is guarded with a round door, which is made without stepping or rebates, and ground for its entire thickness of 36 inches into the frame. This door is of composite construction; the inner half being of nickel-steel armor, and the outer half of cast steel, concrete, jail rods and anti-oxy-acetylene cutter-burner-proof sections. This door with its boltwork and hinges weighs 50 tons, and is so well balanced that it can be swung with one hand.

An emergency door of corresponding thickness and construction, but of lesser size, obviates the possibility of lockout and furnishes means for ventilation, the air in the vault being changed completely every $2\frac{1}{2}$ minutes.



PLANS OF FIRST AND SECOND STORIES, BANKING HOUSE OF J. P. MORGAN & CO.



BANKING HOUSE OF J. P. MORGAN & CO., BROAD AND WALL STREETS, NEW YORK.

Builders: Marc Eidlitz & Son.
 Daniel E. Moran, C. E., Engineer for Foundations.
 Henry C. Meyer, Jr., Heating, Ventilating and Electrical Engineer.

Electrical Contractors: J. Livingston & Co., Inc.
 A. B. See Electric Elevators.
 Loomis-Manning Pulleys.
 Grant Overhead Pulleys.
 U. S. Changeable Signs.
 Chicago Spring Butts.
 Star Expansion Bolts.
 National District Telegraph Watchman's Protection.



FIRST STORY, PUBLIC SPACE LOOKING INTO BANKING OFFICE.

Banking Equipment: Thomas Bruce Boyd.
Illuminated by Frink & J. M. Linolite System.
Interior Decorator: Charles A. W. Rinschede.
Furniture: Francis H. Bacon Co.



FIRST STORY, PUBLIC SPACE LOOKING TOWARD ENTRANCE.

Electrical Contractors: J. Livingston & Co., Inc.
A. B. See Electric Elevators,
Hollow Metal Trim: The Hale & Kilburn Co.

Trowbridge & Livingston, Architects.
Daniel E. Moran, C. E., Engineer for Foundations.
Henry C. Meyer, Jr., Heating, Ventilating and Electrical Engineer.



PRIVATE ROOM IN SECOND STORY FOR MR. J. P. MORGAN.

Woodwork: Irving & Casson and A. H. Davenport Co.
Andirons and Fireplace Fixtures: Wm. H. Jackson Co.



Andirons and Fireplace Fixtures: Wm. H. Jackson Co.
Furniture: Francis H. Bacon Co.



PARTNERS' ROOM, FIRST STORY, AND BOARD ROOM, SECOND STORY.

Trowbridge & Livingston, Architects.



PRIVATE ROOM OF MR. H. P. DAVISON, SECOND STORY.

Woodwork: Irving & Casson and A. H. Davenport Co.
 Andirons and Fireplace Fixtures: Wm. H. Jackson Co.
 Furniture: Francis H. Bacon Co.

Trowbridge & Livingston, Architects.
 Daniel E. Moran, C. E., Engineer for Foundations.
 Henry C. Meyer, Jr., Heating, Ventilating and Electrical Engineer.



Furniture and Woodwork: Irving & Casson and A. H. Davenport Co.



OFFICES, FIRST STORY, AND A PRIVATE OFFICE ON SECOND STORY.

Electrical Contractors: J. Livingston & Co., Inc.
 Chairs: The Marble & Shattuck Chair Co.
 Hollow Metal Trim: The Hale & Kilburn Co.

The three floors of the interior are equipped with security closets and safes, filing devices, trucks, etc. The floors are finished with cork tile. Stairways afford communication between floors, and an elevator is provided for trucks and packages.

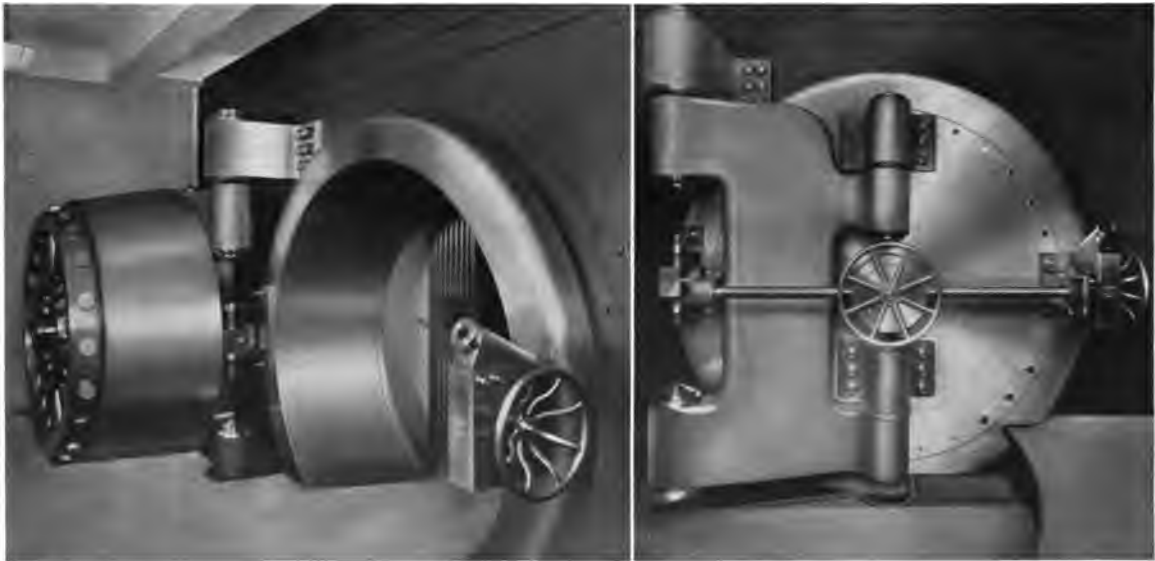
The vault is provided with two systems of electric lighting, a high tension, and a low tension which is brought automatically into service, if the high tension fails.

A complete system of calls, alarms and telephones is also installed, in addition to a telephone permanently connected to "central" for use if a person is locked in the vault. Night lights also run continuously.

The vault work is of the very highest class of vault construction and was built from the designs and under the superintendence of Frederick S. Holmes, Vault

Engineer, by the Carnegie Steel Co. The safes and interior vault work were done by the York Safe & Lock Co.

Marc Eidlitz & Son built the building. Daniel E. Moran, C. E., was the engineer for the foundations and Weiskopf & Burroughs were the structural engineers. Henry C. Meyer, Jr., was the heating and ventilating engineer, and associated with him was Bassett Jones, the electrical engineer and J. Livingston & Co., Inc., were the electrical contractors. The elevators are A. B. See electric. Thomas Bruce Boyd was the expert for the banking equipment and Charles A. W. Rinschede the interior decorator. The woodwork, most finely carved, was done by Irving & Casson and A. H. Davenport Co. The Wm. H. Jackson Co. furnished andirons and fireplace fixtures. The furniture was mostly supplied by the Francis H. Bacon Co.



FIFTY-TON DOOR TO THE VAULT.

Vaults: Carnegie Steel Co.
Safes and Interior Vault Work: York Safe & Lock Co.

Frederick S. Holmes, Vault Engineer.

NEW QUARTERS OF THE CHASE NATIONAL BANK, NEW YORK

KIMBALL & ROOSA, Architects

The new home of the Chase National Bank is severely plain but elegant. The banking room is 200 feet long, extending from Broadway through to Trinity Place, and 75 feet wide from the corridor of the Adams Building to Exchange Place.

The main entrance on Broadway is of beautifully carved Breche-opal marble. A pair of elaborate bronze doors admit to a vestibule and another set of double bronze doors to the banking room. The walls and piers are of Botticino marble and the floors of French Tranville marble with borders of light and dark Botticino. The banking screen is also of Botticino, with carved pilasters, caps, bases, cornice and arabesque panels.

To the left of the entrance is the officers' platform separated from the public space by a marble rail. The furniture is of mahogany. In the rear of the platform are the private offices of the chairman, president, vice-president and other officers, partitioned off with a heavy mahogany screen of the same height as the banking screen. The windows of the officers' rooms, which face on Exchange Place, are of colored opalescent glass.

Extending from the officers' platform to the extreme rear at Trinity Place is the banking screen proper, wherein are located the various departments. Inside the screen the floor is of cork tile.

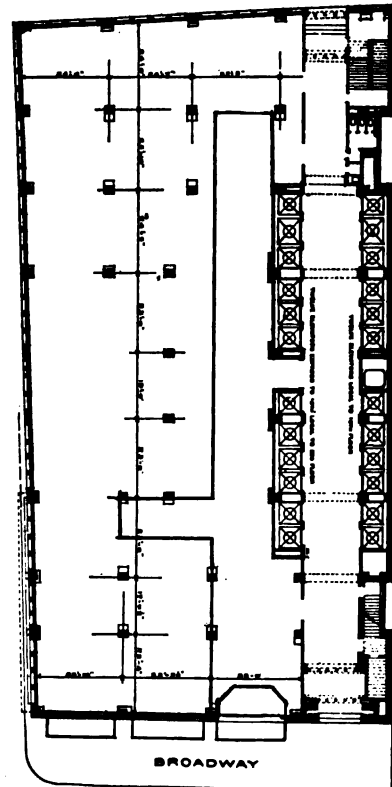
The directors' room is located in the basement. Adjoining the directors' room is the officers' dining room and a private dining room, the clerks' dining room seating 100 persons and the kitchen and lockers. The remainder of the basement is taken up with bookkeeping, mailing, voucher, checking and other departments and the two vaults.

The securities vault is 18 feet wide by 43 feet deep on the inside and is 8 feet 8 inches high. There are two entrances to the vault, located at opposite ends, each outside door being 15 inches thick, and inner doors 5 inches thick, the vestibule walls being correspondingly heavy. The lining is built up to a thickness of 3 inches of solid steel, comprised of alternate

layers of open hearth and 5-ply steel. The vault is surrounded with concrete walls 16 inches thick, reinforced with steel rails.

The entire layout of the bank was under the supervision of Thomas Bruce Boyd, who, representing the bank, prepared plans for the administrative equipment.

The bronze and ornamental iron work of both the exterior and the interior of the bank's quarters were cast by John Polachek Bronze & Iron Company. The Traitel Marble Co. supplied the marble for the entrance and interior. The painting and decorating was done by Peter McKay, Inc. The vaults were put in by the York Safe & Lock Company, and The Hale & Kilburn Company supplied the furniture equipment.



FIRST STORY OF THE ADAMS BUILDING,
QUARTERS OF THE CHASE
NATIONAL BANK, NEW YORK.



PUBLIC SPACE OF THE CHASE NATIONAL BANK.

Banking Equipment: Thomas Bruce Boyd.
Marble: The Traitel Marble Co.
Bronze Work: John Polachek Bronze & Iron Co.
Banking Screen Illuminated by Frink and J-M Linolite System.



OFFICES OF THE CHASE NATIONAL BANK.

Furniture Equipment: The Hale & Kilburn Co.
Painting and Decorating: Peter McKay, Inc.

Kimball & Roosa, Architects.



BROADWAY ENTRANCE TO THE CHASE NATIONAL BANK.

Marble: The Traitel Marble Co.
Bronze Doors and Window Frames: John Polachek Bronze & Iron Co.



Marble: The Traitel Marble Co.



DETAIL OF COUNTER AND ENTRANCE ENCLOSURE.

Bronze Screen and Ornamental Iron Enclosure:
John Polachek Bronze & Iron Co.
Chairs: The Marble & Shattuck Chair Co.
Evans "Crescent" Expansion Bolts.

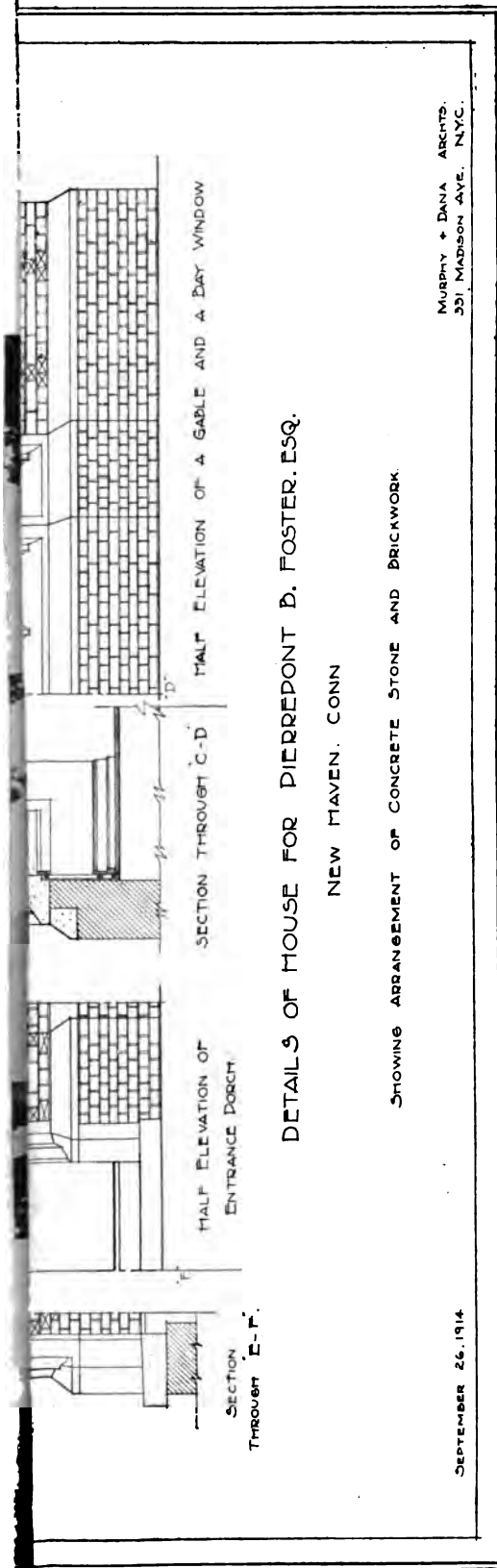
Kimball & Roosa, Architects.



MEETING ROOM AND VAULT OF THE CHASE NATIONAL BANK.

Kimball & Roosa, Architects.

Furniture: The Hale & Kilburn Co.
Vaults Installed by York Safe & Lock Co.
Otis Elevators.
Stanley Ball Bearing Butts.
Star Expansion Bolts.



Copyright, 1915, By the Wm. T. Comstock Co.
Supplement to Architecture and Building.

Progressive Architectural Construction by Frederick Squires.

TION,

of units, so
ld be thrown
are required,
same rooms,
the adminis-
rtments. The
y a new use
xample—five
ridor can at
one spacious
m. The sec-
mple, in the
ngenious ar-
s and mova-
: used as an
rposes, and
.agogue. The
ted that it is
e room, and
oms, as well-
t rooms.





Furniture: The
Vaults Installed
Otis Elevators.
Stanley Ball Bea
Star Expansion

YOUNG WOMEN'S HEBREW ASSOCIATION, NEW YORK

LOUIS ALLEN ABRAMSON, Architect

This building is the first in magnitude of its type. The architect was, therefore, compelled to feel his way, and to view the problem not only from the professional view point, but likewise from that of the association itself. It was necessary for him to spend considerable time familiarizing himself with the actual administration of the association's work, and the type of membership.

As an association is to a certain degree dependent for its sustenance upon the community at large, the solution of the problem had to be in a sense, governed by adherence to "economy first," that is economy not only in the selection of simpler materials and details of construction, but economy in the after care of the building, or economy in maintenance.

The fundamental principles upon which the plan was determined, were as follows:

(A) A flexible arrangement of units, so that two or more rooms could be thrown together when larger units are required, (B) multiple usages of the same rooms, and (C) a concentration of the administrative and supervisory departments. The first was readily achieved by a new use of accordion doors. For example—five club rooms and a long corridor can at any time be opened up into one spacious meeting room or dancing room. The second was achieved, for example, in the auditorium, where by an ingenious arrangement of concealed doors and movable panels, the room can be used as an auditorium for secular purposes, and again transformed into a synagogue. The gymnasium has been so treated that it is possible to use it as a dance room, and the gymnasium's auxiliary rooms, as well-appointed resting and adjunct rooms.



TWO-STORY FOYER.

The building can be theoretically divided into four different departments: educational, comprised of domestic science rooms, model apartment, class rooms for typewriting, stenography, languages, etc.; the physical department, composed of swimming pool, shower baths, gymnasium, and out-door roof garden; the social department, composed of the main large reception lobby, reading rooms, club rooms, social parlors, game rooms, and the auditorium, which is given over to amateur plays and lectures; and the residential department, composed of single, double and triple bedrooms. Here each resident has her own closet, and there is a rest room on each floor to which the girls, tired after their day's work, can retire in negligee without mingling with the incoming members. The large dining room with its adjunct kitchen and cafeteria, and a sitting room off from the dining room, complete this department.

The building has been built at a remarkably low cost. As a matter of fact, it is considered one of the most economical buildings of its type. Its arrangement of stairs and other means of egress has been commented upon most favorably by the Bureau of Fire Prevention and other City Departments.

The exterior has a granite base course and entrance doorway with brown brick are polychrome terra cotta to match above. The inscription over the second story is in pure burnt-in gold. The floors in the main rooms of the interior are of terrazzo and mosaic, the auditorium, gymnasium, and dance floors, of course, being of wood. The corridors throughout are of terrazzo with sanitary base, plinth blocks and jambs. The bedroom floors are of colored cement with the same treatment of base and plinth blocks. The bathrooms and lavatories all have terrazzo floors, Gray Tennessee marble partitions, and tile walls. All bath tubs have been built into the walls and partitions

solidly with tiled-in fronts. The floors of the kitchen, domestic science room, cafeteria, laundry, and roof garden, are all of quarry tile. The floors of the reading room and dining room are of battleship linoleum, cemented to the wood under-floor.

The builder was Jacob A. Zimmermann & Son, Inc., the South Amboy Terra Cotta Co. supplied the terra cotta and an interesting part of the equipment was the folding partitions put in by the Folding Partition Co., Inc. Ornamental glass was put in by Spiers-Lederle Glass Co., and artistic table lamps by George C. Lynch Co. The shower baths are of special design so as not to wet the head of the bather and were made by the Hoffmann & Billings Mfg. Co., and equipped with Niedecken mixers. The walls are decorated with "Washotints," a washable finish made by the Bridgeport Wood Finishing Co.



SHOWER BATHS

Designed by Hoffmann & Billings Mfg. Co., fitted with Niedecken Mixer.



YOUNG WOMEN'S HEBREW ASSOCIATION, 31 WEST 110TH STREET, NEW YORK.

Louis Allen Abramson, Architect.

Builders: Jacob A. Zimmermann & Son, Inc.
Terra Cotta: South Amboy Terra Cotta Co.



LUNCH ROOM AND CLASS ROOM.

Partitions: Folding Partition Co., Inc.
Lamps: George C. Lynch Co.
Washotints on Walls made by The Bridgeport Wood Finishing Co.
Furniture: Reischmann Furniture Co.



YOUNG WOMEN'S HEBREW ASSOCIATION. THE AUDITORIUM HAS A STAGE WHICH
MAY BE TRANSFORMED INTO A SYNAGOGUE.

Louis Allen Abramson, Architect.

Partitions: Folding Partition Co., Inc.
Ornamental Glass: Spiers Lederle Glass Co.
Wood Finishing Products: The Bridgeport Wood Finishing Co.
Otis Elevators.



MAKING LIGHT OF IT

In that comedy of errors, which, for want of a better name might be termed, "Getting Lit Up," the maker of lamps has played a leading part. The mistake which he makes is one quite common to actors in general—a yearning for the center of the stage and the spotlight. Like other actors, this fellow thinks his the whole show, and cherishes the delusion that all other luminaries in the lighting field shine only by the grace of light reflected. And yet the lamp maker has done some things well. It is, indeed, a far cry from Edison's first electric lamp to the Mazda lamp of today—and the gap was only bridged by thirty-six years of ceaseless experiment and research. Unquestionably the Mazda lamp of today has made a necessity of a luxury and placed electric light within the means of the masses. But meanwhile, other illuminants have not retrogressed—crab-like. It is singular, but true, that every improvement in electrical illuminants has been attended by some equally significant and important development in gas lighting. The invention of the electric lamp by Edison in 1879 was followed, in 1887, by Dr. Van Welsbach's invention of the incandescent gas mantle, and each successive improvement in electric lamps, beginning with refinements in filament construction, which culminated in the metalized filament lamp, followed by the Tantalum and Tungsten, was accompanied by similar improvements in gas mantel construction and efficiency. Today the gas-filled Mazda lamps find a formidable competitor in the latest Welsbach burners of the kinetic type, while the smaller Mazda units are confronted with the greatest achievement of modern gas lighting, the C. E. Z. light, with its concentrated mantle, and extraordinary efficiency—meaning in this case, the ratio of the gas *input* to the light output. If you want to know lighting as it really is, forget everything you ever read in the five-cent weeklies and let us get down to brass tacks. From the advertisements in the aforesaid one might readily gather the impression that electric light (personified, of course, by the inevitable Mazda) had superseded all other forms of illuminants, and doubtless, some of us who never travel, may be pardoned for our credulity. *Au Contraire*—all the illuminants which have lighted the world since the beginning are still in use, and are being used more and more. Thus the candle and the oil lamp are still popular, while gasolene, blaugas and acetylene illuminate a wide field, unlighted by the leading

actors in the lighting comedy—Gas and Electricity. One acetylene manufacturer alone has 188,000 installations, and there are 206 such manufacturers in this country, also 119 concerns make gasolene equipment. In addition, there are 1,102 natural gas distributors in the United States and 116 syndicates, some controlling at least 200 individual distributors of manufactured gas. There are 135,780 towns and villages in America, but only 7,615 are supplied with either gas or electric light, leaving 128,165 dependent upon other illuminants. There are approximately 8,500,000 "houses" or "occupied dwellings" in this country, not counting those which are mere shacks or huts, and of this number 700,000 or *less than nine per cent.*, are using electric light. From these figures it is evident that no *one* illuminant has "superseded all the rest" and that it is necessary to view the lighting comedy from behind the scenes, if one wants to get "wise." Outside the large cities, electric service is not at all dependable, there being frequent interruptions caused by storms which temporarily disable the generating system until wires are restrung or dynamos rewound. During these abrupt intervals the consumer who has been thoughtfully provided with "combination" gas and electric fixtures by the architect is indeed fortunate.

Yes, as an actor, the lamp maker is fairly letter perfect, but he doesn't know how to dress the part, and many of the subtleties which make acting an art have proven too elusive. Such a business! Think of it! You sell a man a wick, a lamp, or a mantle, and it burns out, and you sell him another and another and another. The *renewals* are what make the lighting comedy a standing-room-only show, all the time for the lamp makers. Now, we've got lamps that won't "bust" before they're lighted. Do you remember how the old-time Tungstens used to "pass away" on the slightest provocation? The money we saved on the meter in those days used to go for lamp renewals. But then, after all, we had the excitement of continually replacing lamps, and watching for them to burn out. That was several years ago, before Tungstens made good, and were rechristened Mazda—now they're durable and economical and "efficient" (of course), but do you know what part efficiency really plays in the lighting comedy?

Not one, but many, for the word is one to conjure with. From the utilitarian viewpoint it signifies maximum *output* from minimum input, regardless of esthetic consideration. That is why we have the task of eradicating the trade-mark of utilitarianism, which custom has stamped on lighting equipment, *ugliness*. To the artist, efficiency means *effect*, regardless of cost. These are the two extremes which must be reconciled. Presumably they would meet, eventually, but much can be done now by adopting esthetic usage which finds its beginning in a departure from lighting equipment which is commonplace and ugly. Manufacturers of lighting appliances complain that the architect is "not in sympathy with their ideals," and that he disregards their efforts to educate him up to their standards. As a matter of fact the architect doesn't need "education" at all in lighting matters. He has forgotten more about lighting than our friends, the utilitarians, will ever know. Now it is up to the lamp manufacturer to show the architect just how the latest types of illuminants "fit in," and how they can be used advantageously in creating lighting which assists in *revealing*, not *concealing*, architectural expression.

F. LAURENT GODINEZ,
Contributing Editor on Lighting.

FIRE PREVENTION

Comments by EDWARD ROCHIE HARDY

The growth of the high **Standpipes.** building has brought into use this equipment to an extent which we believe is not generally appreciated by those not in touch with the facts. The standpipe itself has passed through a state of evolution until at the present time it has reached reliability, and the Fire Departments are using it.

The first standpipes erected were on the outside of the building, and in the older parts of our cities they may still be seen. No hose was attached to these pipes nor was there any water supply other than that forced through by the engines from the ground. At each story there was a connection, and the theory was that the firemen would bring their hose up the ladder, attach it to the standpipes, and fight the fire from that point. There is no record of any of these pipes ever having been used. When requested to test one, which had been exposed for many years, the Department informed the applicant that they would do so if he would assume the responsibility for any damage that occurred from the bursting of pipe when the water was thrown on. The test was not made.

The normal limit for fighting a fire by means of the limp hose is placed at five stories. As a matter of fact, working from the low levels, the amount of water that can be thrown from the street into the fifth story is very small. It does not penetrate far enough into the building to accomplish the desired purpose, namely, reach the seat of the fire. It does but little good to throw water at a fire, it ought to reach the bottom of it or the place where it is burning. Furthermore, at so great a distance the water tends to spread out and becomes a thin sheet which is very nearly absorbed or converted into steam by a hot fire. In other words, it is a poor tool at this distance. If this be true of the five story building it can readily be seen that if we come to the six, seven or any number of stories more than five the case is quite hopeless. The sprinkler with all its efficiency is limited after all as to the type of risk in which it is installed, and in more high buildings than the sprinkler may apply to is it necessary to depend upon the standpipe as the next most

efficient agent for subduing a fire. With an efficient standpipe all necessity for stretching a line of hose either up the stairs or up the ladders on the outside is avoided. It may be necessary for the Fire Department to carry the limp hose up the stairs and attach it to the standpipe and then have the water thrown on, but that is a small operation as compared with not having this metal pipe as an aid. It removes from the Fire Department any question of getting the water up to the required height, and leaves them merely the business of fighting the fire in the loft.

The principal parts of the standpipe are: the piping, the connection, the valves, hose, nozzles and water supplies. The upright portion termed the riser when first installed was in many cases two inches in diameter; later becoming three, and now not less than four should be put in. In many of the higher buildings eight inches is the required size. The riser is generally and should always be placed close to the stairways so that the fire can be fought from that point, for if beyond control the stairways furnish a ready means of retreat for the fighters. Furthermore, it makes a definite place for the firemen to look for the equipment when they reach the building. If the riser is in the loft its position may be uncertain, and the hose itself may be burned before the firemen have reached the fire. Where the size of the building is such that more than one riser is necessary they should be cross-connected at the bottom or top so that a supply of water forced in from either side will supply the entire piping. The connection at the standpipe provided for the fire engine is at the street level, and one of the most common faults is that it is placed at so low a point or at such an angle pointing downwards, as to make it difficult to connect with it, and in many cases to spoil its efficiency. In the best systems, and most of the large cities require this, there is a tank supply which will furnish an initial supply of water with which to fight a fire before connections are made at the street level. A tank of 5,000 gallons would be desirable, but 3,500 is generally accepted as a satisfactory initial supply.

In connection with the siamese, and also

the hose couplings for that matter, being made of brass they possess quite an intrinsic value, and in many cases are stolen. Iron nozzles and caps to the siamese have been substituted. In a recent case where there was an iron connection it had become rusted and the firemen were not able to get it off in time to make the standpipe of any service. Investigations are being conducted with a view to producing satisfactory iron fixtures, but the problem is not quite solved at this time.

There existed for a long time perhaps, more or less, feeling against the standpipe. The use of the portable hose was so customary that any innovation in the matter seemed like a foreign thing to the fire fighters. This was only human. Within, however, a somewhat brief period of time there has been a tendency to use the equipment whenever it is needed and can be used. This is certainly very commendable. As an illustration of many things, but first the fires in fireproof loft buildings; second, the use of the standpipe; we give herewith the record for three months, September, October, November, 1914, in the City of New York. (When we say City, so far as this device is concerned, that practically means Manhattan Island.)

September.

| Date | Time | |
|----------|-------|--|
| Sept. 1 | 6:37 | Fire Department operated one line of hose from standpipe on 3rd, and house lines on 4th and 5th in adjoining building. |
| Sept. 19 | 11:12 | Employees used two house lines from standpipe in basement and 1st floor. |
| Sept. 25 | 1:20 | One line from standpipe operated by employee. |

October.

| Date | Time | |
|---------|------|--|
| Oct. 1 | 9:51 | One line used by Fire Department from standpipe on 3rd. |
| Oct. 14 | 6:52 | Two lines operated by employees from standpipe, one on 12th and one on 13th. Fire Department operated one line from standpipe on 12th. |
| Oct. 17 | 2:47 | One line used from standpipe on 3rd by employees and Fire Department. |
| Oct. 23 | 6:48 | Fire Department operated one line from standpipe on 7th; also one line from same on 8th. |

| | | |
|---------|-------|---|
| Oct. 26 | 11:12 | House line from standpipes used by employees on 4th, 5th, 7th, 9th and 25th floors. |
| Oct. 29 | 7:42 | One line used by Fire Department from standpipe on 11th. |

November.

| Date | Time | |
|---------|-------|---|
| Nov. 1 | 6:37 | Four lines operated from standpipe on 5th, 6th, 7th and 8th floors of adjoining building. |
| Nov. 6 | 11:31 | Two house lines operated from standpipe on 6th, two on 7th, and one on 8th of fire building; and one line from 8th floor of adjoining building. |
| Nov. 9 | 6:45 | Fire Department used two lines from standpipe, one on 10th and one on 11th. |
| Nov. 9 | 6:43 | Employees operated one house line. |
| Nov. 11 | 6:28 | Building equipped with standpipes and Fire Department failed to use them. |
| Nov. 13 | 7:10 | Occupants used house line from standpipe on 6th. |
| Nov. 18 | 1:55 | Fire Department operated standpipe lines, one on 5th and one on 6th. |
| Nov. 20 | 9:27 | One line used by Fire Department from standpipe on 11th. |
| Nov. 21 | 3:08 | Fire Department operated three lines, one on 8th and two on 9th from standpipe. |
| Nov. 21 | 8:45 | Fire Department operated one line from standpipe on 3rd. |
| Nov. 23 | 12:53 | One line from standpipe operated by employees on 4th. |
| Nov. 26 | 4:52 | Fire Department operated one line from standpipe on 12th. |
| Nov. 27 | 10:57 | Employees used two lines from standpipe, one in basement and one on 1st. |
| Nov. 29 | 7:16 | Fire Department operated three lines from standpipes from building adjoining, one on 5th, one on 6th and one on 7th. |

Causes of Fire.

The State of Texas through its Fire Marshal reports its classification of fires from December 10, 1910, to August, 1914. There were 41,000 fires which occurred in that period, of three years and eight months.

Of the 41,000 fires, 18,878 occurred in dwell-

ings, apartments, and boarding houses. Of this number 13,228, or 70% are listed by the Fire Marshal as preventable fires. These were caused by a great variety of circumstances, the principal one being non-standard flues 15.6%, and exposure fires to an equal extent. The unpreventable fires he ascribes to sparks on roof, incendiary and lightning. Of fires occurring in mercantile properties, 22,122, the list states that 12,091 were preventable, the balance being unpreventable all due to unknown causes, but even this would show that more than one-half were deemed preventable, and this would be increased undoubtedly if we had a true record of the causes for the unknown fires. The Marshal in carrying out this idea just expressed, places the preventable fires in mercantile properties at 74.6%.

**A Ten
Thousand
Dollar Fire.**

A fire aggregating this or a larger sum is considered as something of an index to the burning rate in the country.

The fires from this point upward rapidly increase or diminish the loss ratio. Fires below this amount appear to run more evenly than fires above this amount. There were in November 362 such fires which accounted for one-fifth of the total loss for the month. The first eleven months of this year show total fire losses of \$212,000,000 which compares with \$208,000,000 the year before for the same period. The increase in November of this year of the number of losses above \$10,000 forced the losses for the period of eleven months of this year above those of last year.



PROCTOR'S THEATRE, TROY, N. Y.

Arland W. Johnson, Architect.

Builders: Webber Construction Co.
Terra Cotta: Federal Terra Cotta Co.
Fireproof Windows, Copper Work, etc. Leonard Sheet Metal Works.
Otis Elevators.
Grant Vertical Pivot Lifts.



PROCTOR'S THEATRE, TROY, N. Y.

Arland W. Johnson, Architect.

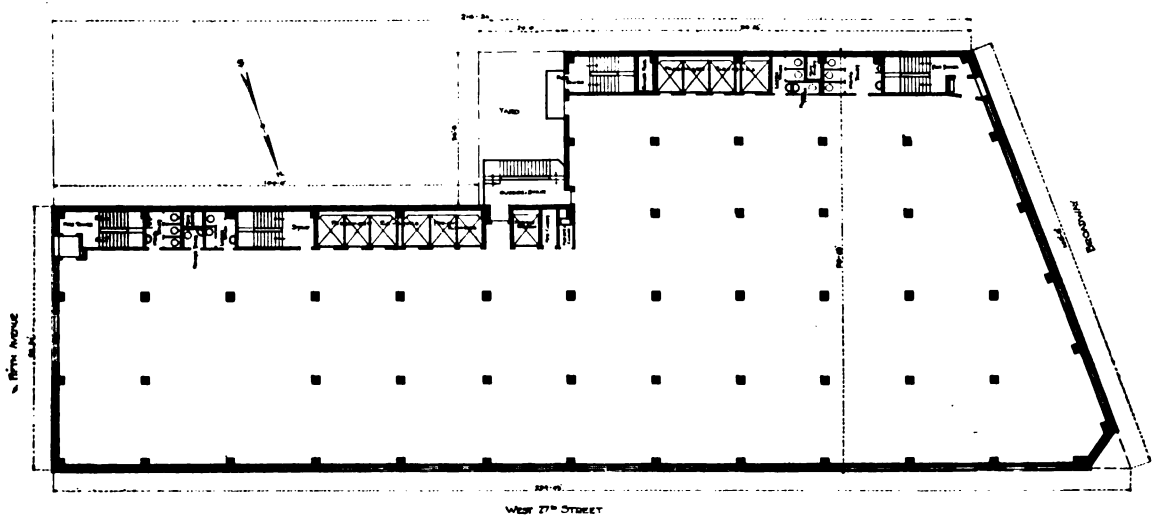
McHugh Willow Furniture and Hand Block Curtain Fabrics from Joseph P. McHugh & Son.



VICTORIA BUILDING, SOUTH SIDE OF 27TH STREET, 5TH AVENUE TO BROADWAY, NEW YORK.
Schwartz & Gross, Architects.



Building Construction: Wennemer Construction Co., Inc.
Flat Tile and Slag Roofing: Ford Roof-Construction Co.
Barrett Specification Waterproofing.



TYPICAL STORY PLAN AND TYPICAL OPEN FLOOR.

Slate: Penn Slate Co.
Plastering Contractor: Conroy Bros., Inc.
A. B. See Electric Elevators.



VICTORIA BUILDING, HALLWAY FROM THE BROADWAY ENTRANCE.

Schwartz & Gross, Architects.

Building Construction: Wennemer Construction Co., Inc.
Interior Marble: Chas. M. Gray Marble & Slate Co.
Elevator Signal System: Franz A. Boedtcher.
Ornamental Plastering: Jacobson & Co.

KANSAS CITY BUILDING

OF

MONTGOMERY WARD & CO.

Said to be the biggest building west of the Mississippi River, the structure which has just been completed in Kansas City for Montgomery Ward and Company is a building U-shaped in plan with over all dimensions of 400 by 600 feet. It has nine stories and over 22 acres of floor space, an equivalent of 1,000,000 square feet. The effect of the open, unpartitioned floors before the building was occupied gave a true sense of its vastness. As completed for use, the area of the building is divided into six large stock rooms or sections, upon each floor. Each of these sections is partitioned off from the other, the openings being protected with fire doors and each section provided with its own stairway and elevators.

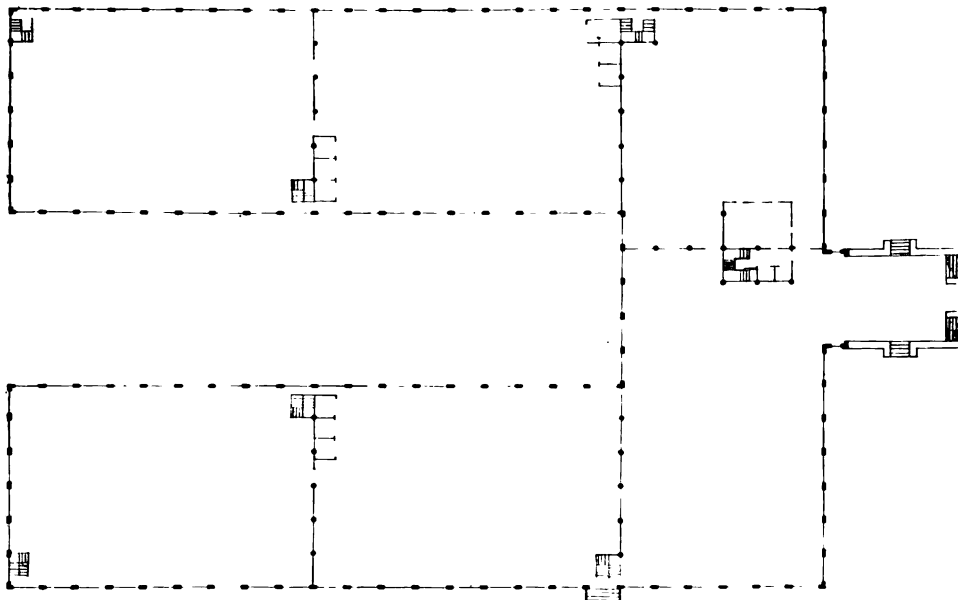
In construction, the building is of reinforced concrete throughout. The window area is of the maximum, the steel sash extending up flush with the ceiling and extending the full width between the pilasters of the walls. In addition to being of unburnable construction, the building which will contain large amounts of combustible material, is protected throughout with an automatic sprinkler system, alarm and watchman's system, which safeguard the premises. In case of fire, the division of the building into sections and the fact that every section is provided with its own elevators and stairways and shut off from other sections by automatically operating fire doors, is the best possible safeguard to the large number of employees. The risk in such a building to life is greater from smoke and panic than from actual fire, and in planning and arrangement the risk of panic among crowding employees would seem to be reduced to a minimum.

The firm of Montgomery Ward and Company has long recognized the principle that a satisfied and comfortable employee produces the maximum amount of work. As mentioned before, the natural lighting of the interiors is of the best, and throughout the inner surfaces of the

building are painted white to increase the amount of reflection and diffusion of light as well as to encourage cleanliness. The work rooms throughout are flooded with sunlight and are sanitary. Moreover, with high ceilings, there is an abundance of natural ventilation, making the working conditions as nearly perfect as possible. There is a mechanical ventilating system in addition to the natural ventilation.

Welfare work among the 3,000 employees provides a library, smoking room and barber shop for the men, and a rest room with porch swings, couches, rocking chairs and a piano for the women. There is a hospital equipped with an operating room, with a physician and nurses in constant attendance. The employees' restaurant is a room 108 by 162 feet, which has a model, sanitary kitchen with an efficient operating force. Another feature is the supply of well-filtered and chilled drinking water throughout the building for the employees. The water is cooled in a vertical cooling tank 50 feet high, chilled by brine coils operated from the large refrigeration plant in connection with the building. In addition to the area occupied by the building, the company owns 14 acres of ground in the rear of the building site, which has been laid out in a park which includes a lake, a baseball ground, tennis court, croquet grounds, etc.

This business is distinctly a mail order business, and to provide for it a postoffice sub-station occupies 8,000 square feet of floor space, forming a part of the establishment. Over 15,000 orders come in daily by mail, and these are delivered from the Kansas City Union station to the plant at St. John and Belmont avenues by street mail cars. The opening of this vast volume of correspondence presented a mechanical problem which has been ingeniously solved by a machine which grinds the letters open. The method pursued is to hold a large package of letters, shaken down so that their ends are level, against a rapidly revolving grind



PROSPECTIVE DRAWING AND TYPICAL PLAN OF KANSAS CITY BUILDING FOR
MONTGOMERY, WARD & CO.

J. W. McKecknie, Architect.

Elevators: American Machine Co.
Radiators: Pressed Metal Radiator Co.
Boilers: Murray Iron Works Co.
Star Expansion Bolts.



ELEVATION OF THE FRONT OF THE BUILDING.

stone. This wears off the ends of the envelopes and saves time in the operation of opening.

Full use is made of mechanical devices such as pneumatic tubes, conveyor belts and chutes in the sorting and distribution of orders to the departments and in the filling and delivery of the goods ordered to the shipping departments. Each day approximately 3,500 packages go out by freight and 12,000 go out by mail. The mail packages are shipped in the mail cars before referred to and the larger packages which are sent by freight are loaded on to freight cars directly from the building.

The site upon which the building stands is a sloping tract, and in this way three

ground levels for railroad tracks, approaching three loading and unloading docks for freight are provided. Along the outside wall on the east side of the building, the freight cars stand on a level with the basement floor, and there the heavy, bulky incoming freight that is stored on the lower floors, comes in. On the west side the tracks are level with the third floor from which the outgoing freight is shipped. Another set of tracks comes into the court between the two wings of the building. These tracks are used for the delivery of coal which is dumped into large pockets below the tracks from which it is handled by automatic stokers to the boilers.



A LARGE STOCK ROOM OR SECTION, SIX OF WHICH ARE ON EACH FLOOR.

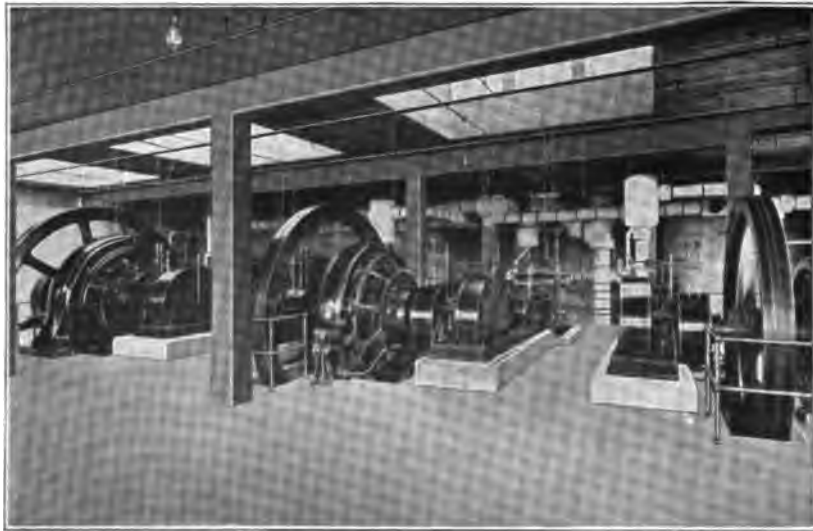


A SECTION OCCUPIED BY THE GROCERY DEPARTMENT.

Radiators: Pressed Metal Radiator Co.
Evan's "Crescent" Expansion Bolts.



A PORTION OF THE ROOF.



THE ENGINE ROOM.

Elevators: American Machine Co.

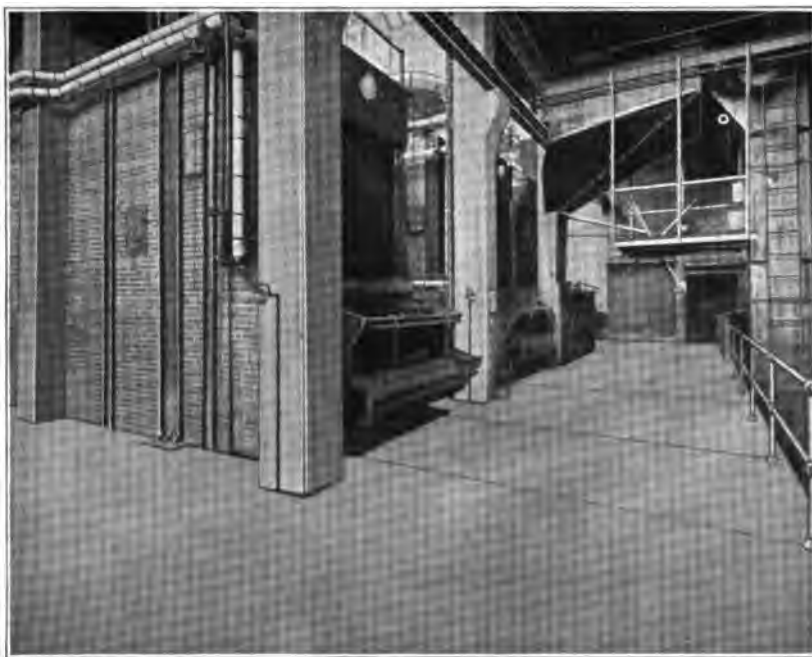
J. W. McKecknie, Architect.

There is one large boiler which is fed entirely from the building waste. All waste material from unpacking and packing goods as well as all dirt which is taken up by the vacuum cleaners is incinerated by this boiler and economically used. The cold storage plant of the building is of large capacity, and will carry 50 carloads of provisions.

In the construction of the building about 45,000 cubic yards of concrete were used. In excavating the foundations,

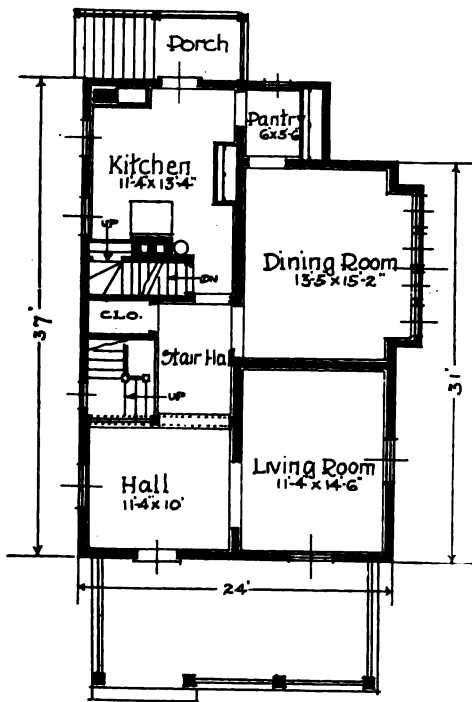
97,000 cubic yards were removed. About 2,000,000 feet of lumber were used for making the forms for pouring the concrete. There are 47,000 panes of glass in the windows, 35 miles of electric wiring, and 14 miles of iron pipe.

The Murray Iron Works Company made the power boilers, and "Presto" pressed metal radiators for heating were supplied by the Pressed Metal Radiator Company. The elevators were constructed by the American Machine Company.

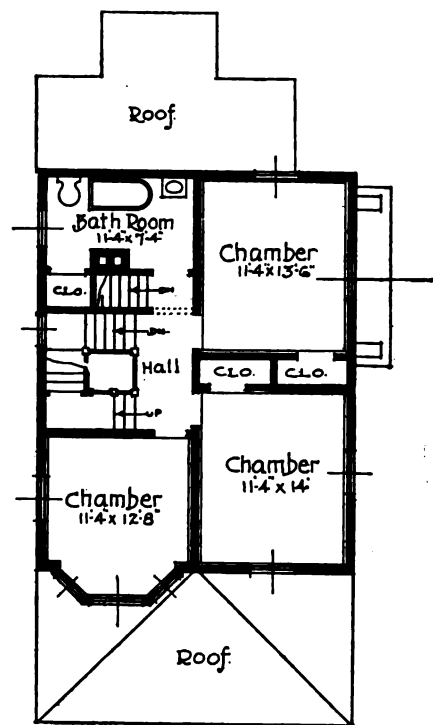


THE BOILER ROOM.

Boilers: Murray Iron Works Co.



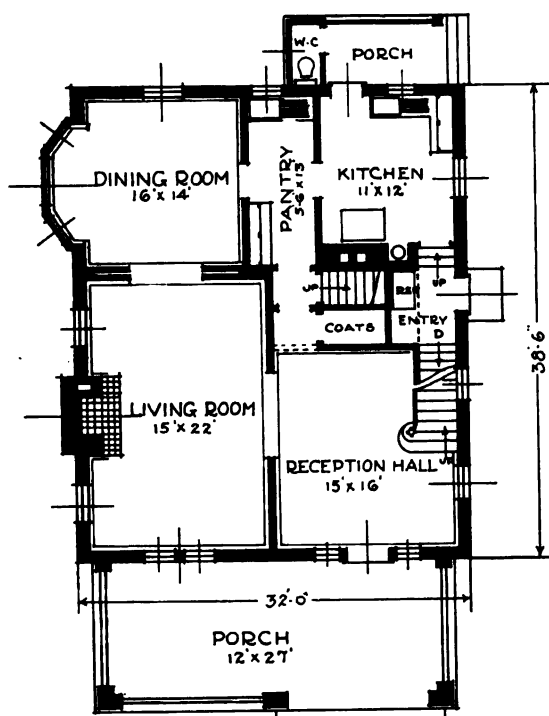
FIRST FLOOR



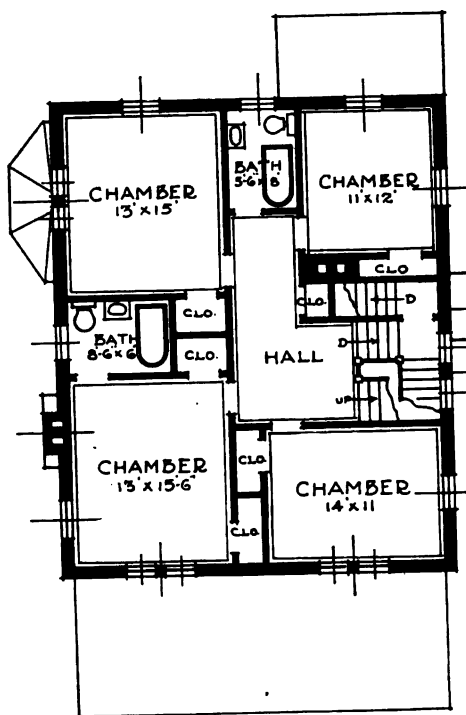
SECOND FLOOR

HOUSE AT CYNWYD, PA.

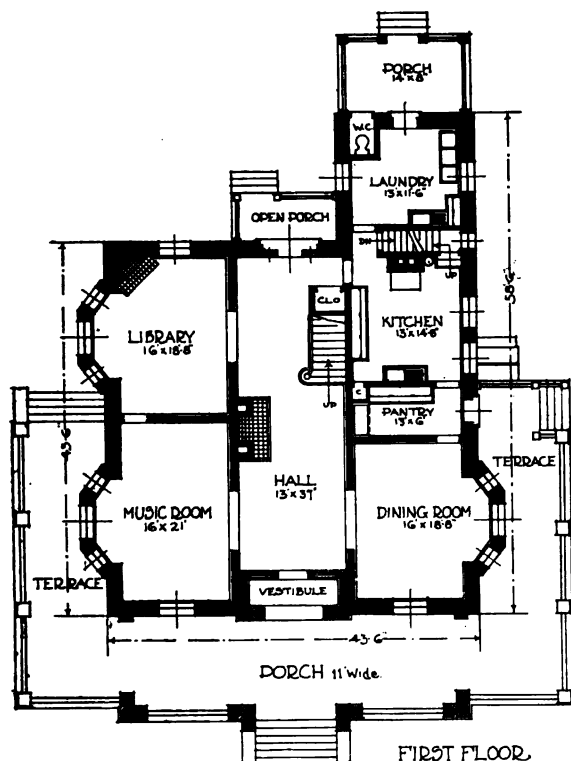
C. E. Schermerhorn, Architect.



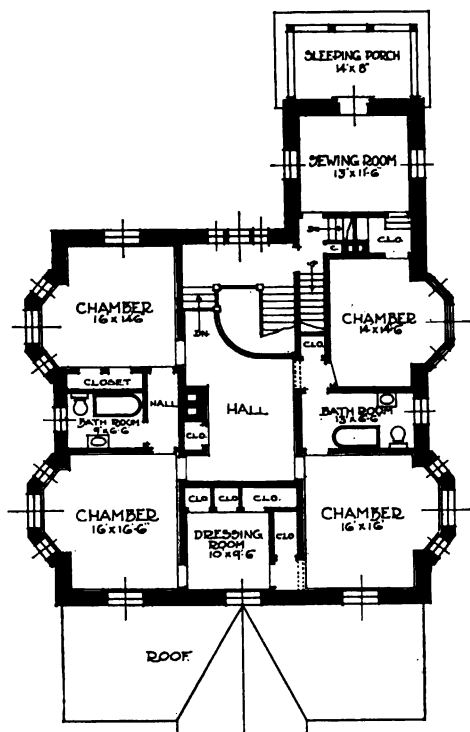
FIRST FLOOR



SECOND FLOOR



FIRST FLOOR



SECOND FLOOR

PLANS OF THE TWO HOUSES OPPOSITE.



MEDIUM SIZED HOUSES FOR THE SUBURBS.

C. E. Schermerhorn, Architect.



TWO FINE COLONIAL FIREPLACES.

C. E. Schermerhorn, Architect.



DIRECTOR'S ROOM—CHASE NATIONAL BANK, NEW YORK

**THE ENTIRE FURNITURE EQUIPMENT FOR
THE CHASE NATIONAL BANK**

WAS MADE BY THE

Hale & Kilburn Company

**1315 WALNUT STREET
PHILADELPHIA**

Everlasting as the wood is the beauty of well executed furniture. Its permanency is fixed. A wise selection will reflect good taste not only now, but it will be a source of comment and appreciation for future generations.

BOOK REVIEWS

THE AUTHOR'S DESK BOOK, by William Dana Orcutt, New York, Frederick A. Stokes Company, 4½ x 6½; 164 pages, cloth; price 60 cents net.

As publishers, we highly approve of this little volume which has been prepared with a thorough knowledge of the subject. The subject matter is well put and is interesting. If every author had this book and read it through before he turned his manuscript over to the publisher, or better yet if he read the book before he wrote his manuscript, we would have much better books and much happier authors and much happier publishers. The contents of the book cover the relation of the author to the publisher, the copyright, relations of short story writers to the magazines, mechanics of the book, arrangement of the book, making the index, glossary of terms and an index to the book itself which is a model of preparation. We can recommend this work to all authors as a good primer for authorship.

COLONIAL MANSIONS OF MARYLAND AND DELAWARE, by John Martin Hammond, Philadelphia and London, J. B. Lippincott Company, Cloth, 6 x 9 inches, 304 pages, 65 illustrations, price \$5 net.

This beautiful volume is a new addition to the group of books by the same publishers which have dealt in such a charming manner with American architecture, and decorative and artistic subjects. The author states that his hobby has been the collecting of old houses and that he has made some of his best finds within easy traveling distance of Baltimore. Although he has had many false leads, he has come across many surprises in his search for Colonial Homes, and judging from the beautiful illustrations of the book, the author has been very successful and most pains-taking in his choice of subjects. The book is first-

hand information and is unquestionably a labor of love. In addition to calling attention to the beautiful survivals to be found in Maryland and Delaware, it has been the author's aim to also bring suggestions to those who are about to build homes. In Maryland, the author discusses and shows illustrations of nearly thirty Colonial houses, mostly those belonging to families who have been prominent, not only in local history but in the history of the Nation. There are a half dozen or more located in Annapolis while the others are more scattered. He also mentions beautiful houses in the State of Delaware, located mostly in New Castle and Dover.

VACUUM CLEANING SYSTEMS, by M. S. Cooley, M. E., New York; Heating and Ventilating Magazine Company; cloth, 6 x 9 inches; 232 pages, 105 illustrations, 20 tables; price \$3.

This book is a treatise on the principles and practice of mechanical cleaning, and deals with the history of mechanical cleaning, the requirements of what the author considers an ideal vacuum cleaning system, the carpet renovator, renovators for other purposes and then in separate chapters gives the smaller details of equipment such as stems and handles, hose, pipe and fittings, and then follows with the prime movers as it were of the systems, that is the vacuum producers, and separators. He further considers control, scrubbing systems and describes at some length the selection of the vacuum cleaning plant going into detail as to the nature of the plant and the work that it is to perform, outlining the requirements for residence or small office buildings, then for a large office building, for a group of buildings, in both of which cases, a carpet cleaning plant is important, and finally for a small plant where carpet cleaning is not an important function of the cleaning system. There is a chapter on tests, one on specifications and a final chapter on portable vacuum cleaners.

The tone of the work is decidedly impartial. The author points out from his great knowledge and experience the fundamental facts which make for an efficient system.

STEEL CONSTRUCTION, by Henry Jackson Burt, C. E., Chicago, Am. Technical Society. Flexible leather, pocket size; 382 pages, 236 illustrations. Price \$2.75.

This is a text and reference book covering the design of steel frame work for buildings. It is intended to give students the facts and formulas needed in designing the structural steel framework for buildings. Since facts and formulas alone would be of little use, they are accompanied by explanations of the underlying

(Continued on page 20.)

GEORGE DOAN RUSSELL

COUNSELOR AT LAW

Tribune Building

New York

TELEPHONE BECKMAN 4718

SPECIALTY:

Legal matters pertaining to Building

Engaged seven years as Architect and Builder; seventeen years in the practice of law.

Barrett Specification Roofs

Slope extension of the Illinois Steel Company, Chicago, Ill.
Roofer—Advance Roofing & Sheet Metal Works, Chicago, Ill.



A Modern Shop and a Modern Roof

Here is a picture of The Barrett Specification Roof on the big new shop of the Illinois Steel Company in Chicago, laid over a concrete deck.

Cut through this roof at any point and you will find six layers of pitch and five of felt, for the method of procedure in the laying of the roof is so carefully defined in The Barrett Specification that, if it is followed, it is not possible to find any spot in the roof which does not have its full quota of pitch and felt.

This type of roofing was selected for the building because its first cost is lower than that of any other permanent form of roof covering and the cost of maintenance is absolutely nothing.

This combination of low first cost and no maintenance cost explains why there are *more* Barrett Specification Roofs on permanent structures than any other kind.

Another important feature is the fact that Barrett Specification Roofs take the base rate of fire insurance. In case of fire from within they form a continuous air-proof fire blanket.

All first-class structures, such as city dwellings, office, railroad and commercial buildings of all kinds should have Barrett Specification Roofs as a matter of real protection and sound economy.

A copy of The Barrett Specification, with roofing diagrams, free on request.

Special Note

We advise incorporating in plans the full wording of The Barrett Specification, in order to avoid any misunderstanding.

If any abbreviated form is desired, however, the following is suggested:

ROOFING—Shall be a Barrett Specification Roof laid as directed in printed Specification, revised August 15, 1911, using the materials specified and subject to the inspection requirement.

BARRETT MANUFACTURING COMPANY

New York Chicago Philadelphia Boston St. Louis Cleveland Cincinnati
Pittsburgh Detroit Birmingham Kansas City Minneapolis Salt Lake City Seattle

THE PATERSON MFG. CO., Limited: Montreal Toronto Winnipeg Vancouver St. John, N. B. Halifax, N. S. Sydney, N. S.



principles, a clear understanding of which is essential to the intelligent use of the formulas. The use of the formulas is shown by illustrations of a practical nature which serve not only to teach the proper application, but to illustrate current practice in this form of construction.

The principal subjects covered are Method of Manufacture, Steel Sections, Quality of Material, Unit Stresses, Rivets and Bolts, Beams, Riveted Girders, Compression Members—columns, Tension Members, Wind Bracing, Practical Design—a Sixteen story Fireproof Hotel, Protection of Steel, Specifications.

FURNITURE FOR THE CRAFTSMAN.

By Paul D. Otter. New York, David Williams Company. Cloth 6x9, 306 pages, 297 figures. Price, \$1.50.

This book is the result of a series of articles which appeared in the "Building Age," entitled "Cabinet Work for the Carpenter." Much additional matter has been added to that contained in the articles and its scope broadened to meet the demand of the amateur who is interested in building furniture. The first chapter of the book is historic, but thereafter the book is a manual of furniture making, filled with suggestions as to every conceivable object in the way of furniture. The author takes up the house, room by room, in separate chapters and discusses the furniture of the hall, sitting-room, parlor, dining-room, bedroom, bath-room and kitchen. Other chapters cover tables and stands, stools, book-cases and holders and miscellaneous types of furniture. The furniture for the porch and grounds is the subject of a special chapter, and the author shows considerable versatility in the variety of designs he has presented. The drawings throughout the book are sketchy and almost entirely drawn in perspective; plans and elevations being limited in number. However, with the perspective sketches, dimensions are given and any one experienced in the tricks of furniture making could easily build from the sketches and descriptive text. As to the designs, it may be said, there are styles to suit all tastes, although some of the forms cannot be recommended as either artistically or structurally beautiful, but this is not the purpose of the book, and the author has given a most liberal variety to choose from and, in all cases, tells how to make them.

Art and Architecture

We present herewith, the comments and observations of an architect, who, while educated in a European School, has had a long experience in New York. Mr. N. Serracino's observations on the "Modern Style" will no doubt be interesting to many American architects.

"When I got into France, Switzerland and Italy, I noticed that most of the buildings in course of erection were designed after what is coming to be called the Modern style. Hotels, residences, theatres, in fact all kinds of buildings, even chapels and mausoleums, are so built. Some architects call it the Floral, others the Liberty and still others the Art Nouveau style. These names, in my opinion, are not exactly correct. I think it might more legitimately be termed the Modern style

"This Modern style varies from all others in that it is unhampered by the rules, traditions and proportions of the Classic orders. The art of decoration is based more on imitation of natural flowers and plants, transforming them in order to suit decorative purposes. In France, Switzerland and Italy it seems that this Modern style is being generally used and it appears that a large part of the public is beginning to like it. This modern architectural decoration is inspired by simplicity, limiting the ornamentation and is free from all tradition and the rules of everything that was done before. Flowers and plants are imitated and in some buildings polichrome effects are produced.

"This Modern style is highly commendable in a great many instances but it is being pushed to excess and a great many architects are employing for ornamentation flowers and plants which have been transformed to such an extent that in many cases the style has been made to appear ridiculous. Eccentricity has been given too much latitude.

"Most of the buildings in Europe are now being built with reinforced concrete, using stucco on the outside with different finishes. Even natural stones are imitated in a surprising manner by using the cement and finishing the surface with powder of the real stone they are imitating. There are many fine examples of this in Switzerland and in Northern Italy.

(Continued on page 22.)

Chas. M. Gray Marble and Slate Company

Reference
WORLD'S TOWER BLDG.
110-112 West 40th Street
Edward West Browning
Owner and Builder

Estimates Given
TELEPHONE 594 ASTORIA

Office and Works
709 VERNON AVENUE
LONG ISLAND CITY
NEW YORK



J. P. MORGAN CO. BANK BUILDING, NEW YORK

J. LIVINGSTON & CO., Inc.

Electrical Construction

70 East 45th Street

Night Telephone Connection for Emergency Repairs

New York

Make Your Dollar Produce More in a New York City Hotel

\$2.50

A pleasant room with private bath, facing large, open court.

PER DAY

(Not one room, but one hundred of them.)

\$3.00

An excellent room with private bath, facing street, Southern exposure.

PER DAY

(Not one room, but eighty-seven of them.)

Also attractive Room without Bath for **\$1.50** per day. The restaurant prices are most moderate.



LOCATION

One minute from five of the largest department stores.
Five minutes' walk from 19 principal theatres.
Within a block of the Fifth Avenue shopping district.
Every line of transportation passes the door.
Fifth Avenue Bus lines and principal surface lines.
The Hudson Tubes across the street.
Elevated Railroad Station across the street.
Subway Station three minutes away.
Grand Central Station within seven minutes.
Pennsylvania Railroad Station just one block away.
For convenience one could ask no more.

THE HOTEL

600 ROOMS

EVERYTHING NEW AND MODERN
A FIVE MILLION DOLLAR HOTEL.

400 BATHS

EQUIPPED TO SATISFY THE MOST
EXACTING TASTE.

ALL BAGGAGE TRANSFERRED FREE TO AND FROM PENNSYLVANIA STATION

THE HOTEL MARTINIQUE

On Broadway, 32nd to 33rd Streets

NEW YORK

CHARLES LEIGH TAYLOR
President

WALTER CHANDLER, JR.
General Manager

WALTER S. GILSON
Vice-President



CHASE
NATIONAL
BANK
New York

planned by

THOMAS BRUCE BOYD

Bank Equipment Specialist

286 Fifth Avenue - - - NEW YORK

"I have seen beautiful examples of the Modern style in residences and theatres and liked them very much. I have seen other buildings where there was too much ornamentation and eccentricity, and in such cases this Modern style did not appeal to me at all.

"I should not like to see this style employed for public buildings, or for that matter, buildings of any serious nature. In Rome I noticed several examples of this architecture and I wish to criticise strongly the extension to the Montecitorio building now being used as the House of Parliament. This old building was begun by the great architect Lorenzo Bernini in 1650 and completed by C. Fontana. It is a beautiful specimen of the good period of the Borocco style. The new extension, however, is being built in the modern style, flowers, fruits and plants being used for ornamentation. The new addition as it is being built, would look very well if it were going to be used as an apartment house or hotel, but it is by no means suitable for a House of Parliament, particularly as an extension to the work of Bernini, who was an architectural genius. In my opinion, it should have been compulsory that the same style be employed for any addition to such a building. Bernini's facade will be left unaltered, but the rear and portion of the side elevations will be in the Modern style. I do not think this new style is appropriate for a building of this character."

SOCIETY OF BEAUX ARTS ARCHITECTS' NEW BUILDING.

The Society of Beaux Arts have purchased the building at 126 East 75th Street, which is of three stories with a forty-foot front, while an alley separates the building from the next house to the east. The building was formerly a private stable for Mortimer L. Schiff; the purchasing price was \$55,000. The two upper floors are being made over into studios and the ground floor is being converted into a large exhibition room. The society membership, which has now grown to 400, will find a more congenial home in this new building than in their former quarters, and they will be in a better position to carry on the educational work which has been one of the chief aims of the society. At the present time in ateliers in the various cities 1,200 students are now receiving free instruction in architecture at the hands of many of the men who lead the profession in America.

The Department of Education of the City of New York has issued a schedule of examinations of eligible applicants for licenses to teach in the Evening Schools the many subjects which relate to the building trades. Some of the subjects in which teachers are required are as follows: Architectural Drawing, Carpentry and Joinery, Electric Installation and Practice, Furniture Finishing, Mural

ENGINEERS' DIRECTORY

PAUL CHAPMAN

Consulting Engineer

Steel and Reinforced Concrete
Bridges and Buildings

501 Fifth Ave.

New York

FRANCIS W. COLLINS

Assoc. Mem. A. S. C. E.

Mem. A. I. M. E.

**CONSULTING
ENGINEER**

50 CHURCH ST., HUDSON TERMINAL
NEW YORK CITY

Investigations, Valuations,
Scientific Organization and Management

ARTHUR LATTAU

Consulting Structural Engineer

Mill and High Buildings
Steel and Reinforced Concrete

51 Yale Street, Bridgeport, Conn.

FREDERICK S. HOLMES

Bank Vault Engineer

2 Rector Street - - New York

Engineer for the Bank Vault Equipment in the J. P.
Morgan & Company Bank Building, New York
illustrated in this issue

POSITION WANTED:—Intelligent boy (age 16 years) desires a position in an architect's office. Has had two years' office experience. Will furnish references. Address Henry Bingham, 163 Cooper Street, Brooklyn, N. Y.

Decoration, Plumbing, Sheet Metal Work, Sign Painting, Stained Glass Design, Terra Cotta Drawing, Terra Cotta Model Making, Textile Design, Tile Setting, Trade Drafting, Trade Mathematics. Copy of application for license to teach in these subjects are to be received by the Board of Examiners up to February 15, 1915, and the examinations will follow soon thereafter.

The Forty-eighth Annual Exhibition of the American Water Color Society will be held at the National Arts Club, 119 East 19th Street, opening February 4th and closing February 25th, 1915. This exhibition is open for original works in water color which have never before been publicly exhibited in New York City. The Hudson prize of \$200 for the most meritorious water color in the exhibition will be awarded as usual.

Daniel E. Moran, C. E.

CONSULTING ENGINEER

55 Liberty Street
New York, N. Y.

Foundations for Bridges, Buildings, Dams and
Subaqueous work by all methods

Construction Branch

Dutch Agency firm desires representation for Holland and Belgium or the whole continent, of manufacturers of tools, implements, building and construction articles, simple machinery, also shipbuilding accessories, etc.

Letters with full details, catalogues, etc., under No. 350. Adv. Bur. N. K. M. Wijnhaven, 85, Rotterdam (Holland).

Industrial Progress

EXHIBIT OF CLAY INDUSTRIES OF NEW JERSEY.

There is now being gathered by the Newark, N. J., Museum Association an exhibit of materials produced by the clay industries of the State. It will outline the whole line of clay industries and as far as can be remembered, it is the first undertaking of its kind by a museum. The exhibit will be opened in February, 1915, and continue for six weeks.

The clay industries were chosen for this exhibition partly because of New Jersey's prominence in these manufacturers (she is second in the value of her pottery products in the union, their total going up toward the twenty million mark in late years) and partly because the clay and brick industries are so scattered from the north to the extreme south end of the State that through them a wide interest can be attracted to the museum's educational-commercial efforts.

Manufacturers of brick, hollow tile, drain pipe, sanitary and electrical wares, as well as the makers of architectural terra cotta, fine and common china, tiles and decorative pottery have signified their interest in the exhibit, and their willingness to help to make it a success.

To meet the constantly increasing demands which were far in excess of the edition authorized by Congress for free distribution, a subscription price of \$2.50 a year was fixed for the "Daily Consular and Trade Reports," effective July 1, 1914. Under this plan the charge, which is less than the cost of printing and paper, permits all firms and individuals who desire the publication to obtain it promptly. Many persons who were formerly unable to obtain the reports because of the limited edition fixed by law, may not yet be aware of the opportunity to subscribe, and thus have access to the commercial information gathered by the Federal Government from all the countries of the world for the benefit of American business houses. Subscriptions for the publication are received by the Superintendent of Documents, Government Printing Office, Washington, D. C., at \$2.50 per annum, mailed daily, and \$6 per

annum for cloth-bound quarterly volumes, with index.

Mr. Frank H. Westlake has become associated with the B. L. Marble Chair Company as their Sales Manager. His wide acquaintance and experience in this business, which covers office chairs, bank chairs, and, in fact, chairs for all classes of public buildings, makes him a particularly useful man to the company in his present position. Mr. Westlake has for many years been connected with the Sales Department of the Milwaukee Chair Company and for the past six years has been Secretary of that company, having charge of the manufacturing and the plant management. The main office and factory of the B. L. Marble Chair Company are located at Bedford, Ohio, and their New York office is 1143 Marbridge Building.

"The Thermal Properties of Steam," by G. A. Goodenough, has been issued as Bulletin No. 75 of the Engineering Experiment Station of the University of Illinois. The bulletin presents a critical discussion of the experimental investigations of the various thermal properties of steam, an outline of the thermodynamic relations that must be satisfied, and, finally, the development of a general theory of superheated and saturated steam.

There has recently been formed and incorporated the new firm of the Cogswell-Koether Company, with offices at 406 Park Avenue, Baltimore, Md., to operate as building contractors. This firm is well equipped to carry out extensive building contracts in a careful and reliable manner. Mr. Corbin C. Cogswell, President of the company, has been associated with Wells Brothers Company, of New York, for many years, and Mr. George H. Koether, the Vice-President and Treasurer, has been connected with Morrow Brothers of Baltimore.

Mr. Charles N. Whinston, C.E., and Mr. Benjamin H. Whinston beg to announce that they are associated in business as architects at the Columbia Trust Co. Building at 148th Street and Third Avenue, Bronx. They would be pleased to receive manufacturers' catalogues and samples.

(Continued on page 26.)




THE UNIT CLOSET FLUSH VALVE

The Unit Lever Handle Flush Valve. Guaranteed
to Work from Five Pounds Up. Tank Pressure.

MURRAY & SORENSEN

Sanitary Specialties. Brass Founders and Finishers.

Unit Push Button Flush Valve 352 Pearl St., New York Roxbury, Conn. Unit Lever Handle Flush Valve



Advertisements—When writing Advertisers, please mention Architecture and Building.

February, 1915

ARCHITECTURE AND BUILDING

Michigan Central Station, Detroit, Mich.

Editorial—The Machinery of Competition

Theodore Starrett

About Lighting

F. Laurent Godinez

Fees—A Reductio Ad Absurdum

By Tom Thumtack

A Private Art Gallery

Scottish Rites Temple, Washington, D. C.


Small House Designs

Detail Plate

Published by
The William T. Comstock Company
New York

20 c. a copy.

\$2.00 a year.



"Globe" Ventilators

combine highest efficiency with strength and durability.

Made in heavy galvanized iron, copper and Toncan metal and with glass tops when desired.

Send for Model Demonstrating Operation

Globe Ventilator Co.
Troy, New York



STUCCO Made With

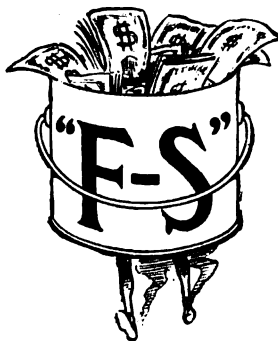


IS Waterproof & NON-CRACKING

Send a Postal for Book 91

The Standard Paint Co. New York
Boston
Chicago

Capital, \$5,000,000.00



Money in "F-S"
Products is
money saved

When you specify "Alba Flint Enamel" you protect the purchaser—not only in initial expense but in the long run. One coat covers like two of many others, and the enamel has a reputation for strength of body and great durability. It flows freely and dries with a brilliant, substantial gloss. It is suitable both for outdoor and inside work.

FELTON, SIBLEY & CO., Inc.

Manufacturers of Colors, Paints and Varnishes since 1863

136-140 North Fourth St.

Philadelphia

ARCHITECTURE AND BUILDING

A Magazine Devoted to Contemporary Architectural Construction

WILLIAM P. COMSTOCK
Managing Editor

THEODORE STARRETT
Contributing Editor

Volume XLVII

FEBRUARY, 1915

Number 2

As I think I have said before in these attempts at enlightening the building fraternity—for such I assure the doughty reader they are—my sole object is the improvement of the condition of all who live by building—both architects and builders.

If I could have my way no honest and well-meaning builder should ever do a stroke of work that was unprofitable. Every single job should have at least ten per cent. profit in it, provided only the honest fellow deserved it. If he had been guilty of conspiring with his workmen by inducing them to pull his chestnuts out of the fire in consideration for his raising their wages to a prohibitive point, I would still, I think, pass laws guaranteeing him against loss, just as our National lawmakers are now about to do for other interests. I think I should do this. I am not quite sure

And I would fix things up so that every architect should be paid a living fee for everything he did in the line of his profession. Every man or woman of voting age who got an architect to make a sketch or tell how to mix concrete or whether shingles were cheaper than tile for a roof, every single one of them should get a bill which he or she must pay or go to jail—no, which he or she must, or the Government will, pay.

If the pay of mechanics were to remain what it is now I should make the huskies work. O, how they would have to hustle! I think they'd be glad to accept a reduction rather than submit to the driving they would get. Incidentally, if they could only get a good, square, intelligent grasp of the situation as it relates to themselves and their wives and children I believe that all trade unionists, except the walking delegates and some few socialists and anarchists who are to be found among them, would be glad to accept a big reduction in wages—a reduction of half. You know the precarious and unsteady job is now almost the rule with these poor fellows.

I could perhaps fill up my whole space with words about the unfortunate mechanic who has faithfully helped to build up his union

by paying dues and refusing to work with any who are not also union men in good standing—the unfortunate mechanic whose services are so dear that nobody wants him a minute after he can be spared.

I could tell stories of well-meaning fellows who find that porter-house steaks are no nearer now than they were before. And some of these well-meaning fellows, observing the illusiveness of the afore-said steak, get themselves into a bad state of mind toward society if they happen to be of a philosophic disposition. That's why one sometimes hears of anarchists in a trade union.

There's another kind of union—a labor union—which may be full of anarchists for all that I know; but the trade union is different, especially the building trade union. In these unions wages—rather I should say the rate of wages—is enormous; but wages themselves—well, as the majority of the members of the unions will tell you, “there isn't any.”

There are three components or divisions of this building world, or at least there are three general groups which produce the present situation—architects, builders and artisans or mechanics.

The owner when he goes to market to buy a house does not go to a shop and pick out his fancy and take it home with him.

Ah, here comes that old chestnut about building being so different. Perhaps there's some builder reading this—or some architect—who has heard before of building being so different. “Oh, why don't they leave us alone? It's these reformers, these talkers, these lecturers that stir up the trouble. Why don't they go back to the farm and let us go on with our business the way we used to?” My answer to such is that it is not the reformer that has found you out. It is somebody else who shakes you down without mercy. If you would listen to the reformer you would learn what is the matter with yourself and be able to protect yourself.

For the three divisions of building that I have spoken of are three splits in the log that is to be made into fire wood. More divisions follow—are really there all the time for the woodchopper to find and complete his job of destruction.

The owner when he goes to market to buy a house does not go to a shop and pick it out and either leave it or pay the price for it. No, he goes to an architect or a builder to whom he has to describe what he wants and the architect or builder has to imagine what the owner wants to buy.

I will spare my intelligent reader the account of how once upon a time the three that I speak of (architect, builder and mechanic) were one and how it was a comparatively simple matter for the owner to deal with a building proposition—how buying a building was in some sense like buying other things and the builder sold on his reputation just as merchants do now, because that was the general custom; the means of competition had not been devised.

I will spare the account of the gradual entrance of competition and the gradual disappearance—not literally and completely, but gen-

erally speaking and as a rule to which, thank Heaven, there are still some exceptions—the gradual disappearance of that element of business that is its saving grace—character.

If the builder ever was a merchant like other merchants, selling a finished product like other merchants—and I believe he was such—he has passed into eclipse. His business is in process of being taken to pieces, resolved into its separate parts. Whether it will ever be put together again or how it will be put together again I do not undertake to say.

Today the owner who desires to buy a building will find ready to his hand a machinery of competition that is fearfully and terribly developed as a result of abuses that called it into existence. By the use of this machinery the architect and the builder are made to fight it out between them to the detriment of each. What architect that has had his work done by an ignoramus of a builder does not know this? And what builder that has had to do work for an impractical architect does not think in his secret heart that this is so? (Notice the way I favor the architect with my adjectives, doughty reader. I know which side of the bread has the butter on it.)

Fight it out is the phrase to use. With the owner or his agent watching the two, it's fight or be lost for whichever of the two you choose to consider. If you don't think so, if you think this is too unkind or too rank a comparison, look around you. What becomes of the architect that is kind to the builder?

The clients will show this architect some day.

As for the builder who is too considerate toward the architect—well, that's a joke today. There are some builders left who can patronize the architects, but they don't stand in that relation any more as a rule. If the builder has a "construction company" contract including architectural service and is beholden to the owner only as a business proposition, then he (the builder) can do as he pleases without hurting himself with his customer—not client in this case. But if the relation to the owner is such that the owner is a client of the builder—not a customer—and any friendly act toward the architect is colorable in the owner's judgment as being against the owner's interest, then trouble is in store for the builder.

Architect and builder, under the present system, are made to be opposed to each other. They are made to fight for the crumbs that fall from the mechanics' table, a statement which I shall attempt to prove next month.

Theodore Starrett.

ARCHITECT-TONICS

The TECTARCH

by Tom Thumtack



After many years of architecture I now and then philosophize, interrupting my practice, looking back over it and drawing deductions from it of a wisdom quite astonishing. I am sometimes disturbed to find that such philosophizing takes place on hot afternoons or after heavy meals and corresponds quite closely to the time-honored times for being just plumb-lazy, so I must try to justify the practice by its possible influence on you who utilize like lazy hours to read what I have written.

I have tried at such odd moments to classify my clients and their attitude toward the professional services I have sold them. I am struck by the fact that those who have been best able to pay for art have had the least desire to buy it. A moment's thought and I see I cannot patent this idea! It is a thousand years old and worn thread-bare by usage. It is the Absolute Divorce of the Practical and the Artistic.

The practical man succeeds, the more practical the more successful, and that most practical of men, Mr. Practicalissimus, is the

Johnny who gets away with most of the money. He always beats the man who is less practical and so always beats the artist who is seldom practical at all, and whom he therefore mightily despises. By the same reasoning, he himself is the least artistic. He is the man to whom a minute at the ticker brings more joy than an evening at the opera. He gets more satisfaction out of six per cent than sunsets. He gets more pleasure out of counting-rooms than palaces. Sad, but true, he is the only one who can afford to build a palace and he doesn't want one. He gets what he wants but he doesn't try to get what he doesn't want. A pretty woman is the only beauty he appreciates.

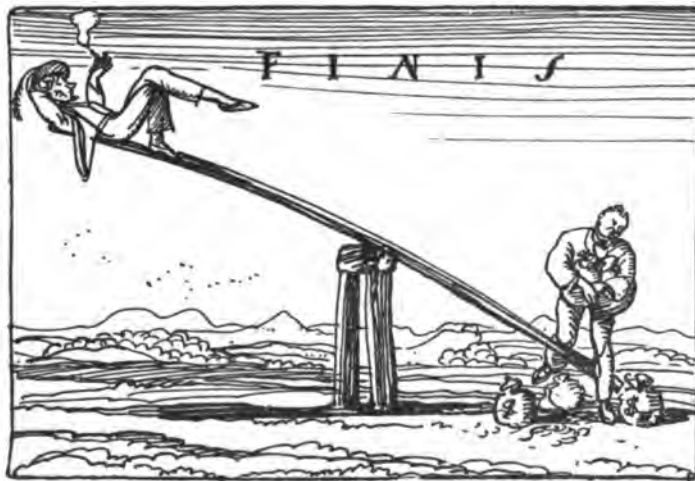
How did Mr. Practicalissimus look at the artistic ability of Tom Thumtack? He gave it the same high degree of praise that he would bestow on an aptitude at matching ribbon. It is small satisfaction to find that he doesn't care any more for poetry or music. I am tempted to call Mr. Practicalissimus a barbarian until I think of my own brothers. There are four of us and three are practical and one an architect. The others are all good men and true, and the fact that they are practical and now captain certain industries and love not art, nor music cannot blind me to their very obvious civilization. Edison finds his pleasure in poker not paintings. Lincoln loved the Jester more than the Laureate. There is apt to be very much that is admirable and certainly much that is useful about our Mr. Practicalissimus. It is indisputable that he is in the best position to encourage architecture provided he can be made to want it, for he has demonstrated that he gets what he wants. Our mistake has been that we have tried to do business with him by offering him the ornamental when he was in the market for the useful. It may emphasize this mistake the more when we recall that modern markets have advanced faster selling brains than feelings.

Our profession's name consists of two words referring respectively to art and science, and we who practice Architecture should practice Art and Science. But through our mispronunciation of the word, Art has gained undue emphasis. Mr. Practicalissimus doesn't care for Art, so give him Science. He admires and respects Science in the inverse ratio to the way he admires and respects Art. He doesn't want to trifle with an artist any more than he wants to drink soda-water, but he respects the man who can rebuild a railroad station without disturbing the train schedule. Now the main difference between Mr. Finedesign and Mr. Edison is that Mr. Finedesign has an artistic imagination and Mr. Edison a scientific imagination. This being true, and wanting to sell what Mr. Practicalissimus is in the market to buy, let's change the accent and put the emphasis on the Tect. Or, better still, reverse the word. Offer him the service of a Tectarch. You will find that it is not such a bad idea after all. Better men than you have been Tectarchs. Carrere was a Tectarch, Burnham was a Tectarch; I know a certain Colonel who is a Tectarch. Every city office building is a Tectarch Job. The Lillienthal-Hornbostle bridge was a Tectarch Job. Even Richardson and White,

though architects with a great big A, were men with a punch in each hand, and not the ribbon-matching kind. Mr. Practicalissimus would love a Tectarch and gladly give him his big work for like seeks like. So if you are trying to sell to Mr. Practicalissimus, offer him what he wants to buy. If he wants a dog, sell him a dog and remember that it makes him mad to see the tail wagging the dog. It is a good bet that if the tail wags the dog too hard, he'll get a bob-tailed dog and that's only a longer way of saying "Engineer."

* * * * *

Having philosophized away the hour when other people clasp contented hands over well-tightened belts, I find that out of the past has come the vision of what I should have been to have caught the cream of clients. I find that I should have called myself a Tectarch and should have used a slide-rule instead of a scale. Now I stroll slowly officeward, determining that if I cannot be a Tectarch and must needs be an Architect and the tect must be the tail, I'll briskly wag my good tect-tail so it will not atrophy.





It's some job to even imitate Nature. Some are not content to imitate. They would improve on the Creator's plan. Reformers of this type have been christened Illuminating Engineers. According to them, it would be an improvement to do away with the period of rest which comes with sun-down, and substitute a perpetual day. Meddlers of this sort are more to be pitied than scorned. The blame rests upon the narrowing influences of a technical "education," which ignores the concrete for the abstract, and blasts the imagination of the student, destroying his ability to sense the finer things of life. This artificial daylight stunt consists in trying to make an artificial illuminant perform like the real thing. As the sun sweeps across the horizon, the color value of daylight changes. The early morning light is cold, very cold, some mornings. At noon sun light is white, and bright, and fierce. Analyzed as to color, daylight at noon on a bright day consists of 33 1-3% each of *red, green, and blue*. It is this searching garish light which is modified and toned down by drapery and window treatment, before it enters an interior. Can you imagine anything more harsh, or cold, or disagreeable, than a room flooded with garish light, unmodified by window hangings of any sort? How could we get along without convenient roller shades to regulate the brightness of an interior in accord with our mood? Yet our commercial friends, the illuminating engineers, who make and sell devices to produce artificial daylight, insist that "a white light is a better light—a light universal." The publicity which has attended this falsehood has caused considerable damage, because many people believe what they read in the advertising section of the five-cent weeklies, without stopping to reason. An artificial light which approximates daylight at noon has certain applications of usefulness, but such a light must not be regarded as suitable for the lighting of the home. Daylight at noon is a *white light*, and such a light is suitable for *working conditions* requiring an accurate comparison of color value, such as in silk mills and other similar industrial occupations.

Artificial daylight units consist of a lamp within some colored medium which supplies or contributes enough *blue* to compensate for the shortcomings of the lamp itself. The plan of placing lamps within wash-basin like affairs of "blued" glass is not effective unless the top of the basin is covered. A certain percentage of the lamp's light is transmitted *through* the colored glass, and the balance is reflected upwards toward the ceiling by the polished inner surface of the basin. This upward light is redirected downward again by the diffusive action of the ceiling, and thereby hangs a tale. If the ceiling is not absolutely *white* the redirected light will partake of its color. Hence a yellow ceiling will redirect yellow light downward, which, united with the "white" transmitted light, destroys its "whiteness" and defeats the original purpose of "imitating

**HOLDING UP
THE MIRROR**

Nature." Invariably these utilitarians who are continually howling about "efficiency" become so obsessed with trivial detail that the really important measures get lost in the shuffle. In one of New York's newest department stores this daylight stunt was installed as above described, only the wash basins had "trimmings"—in the form of gold tassels and other embellishments dear to the fixture-man's purse. The ceilings and pilasters, alas, were of Caen Stone, and the light which escaped ceilingward from the bedizened wash basins came down to earth—yellow. One application of ordinary one-cylinder horse sense would have done the trick, but everybody on the job seemed to be out of gasoline. If it were only possible to confine these utilitarians exclusively to industrial occupations, such as factory lighting, illuminating engineering, plumbing, gas fitting, and bell hanging, all would be well, and the architect would enjoy a surcease of sorrow but ad interim he is grievously beset and hounded by idiots who would convert night into a hideously bright and unnatural day, giving to humanity in general the curse of a 24-hour working period. Diametrically opposed to the whiteness of the noonday light is the warmth of the late afternoon sun. It was not by accident alone that the night lights which have lighted Civilization on her way for years brought into the home an afterglow of the mellowness and radiance of the setting sun. Is it not strange that a lesson taught by centuries should be too simple for these utilitarians to grasp? The architect knows it well, and so does every interior decorator. The artist has shared their knowledge from the start, and the musician from the time he first paid tribute to the Muse. Every woman sees it reflected in every glance of admiration, and it is reiterated by her mirror a thousand times. The children know it when they are happiest. But the utilitarian is dumb. He refuses to understand. I will make the prediction here and now that illuminant manufacturers will be forced to abandon their silly, false propaganda of "a whiter light, a better light, a light universal." It is unfortunate that it has remained for an individual to force the issue, but it is being forced and gaining ground each day. The People's Gas Light and Coke Company of Chicago recommend Amber Light Welsbach Mantles exclusively for residence lighting. Many years ago the Welsbach Company realized that a white light mantle was not suitable for *every usage*, and perfected a mantle which has all the softness, restfulness and mellowness of the oil lamp. There is no reason why manufacturers of Mazda lamps should not furnish lamps with amber bulbs for home lighting. There is every reason why they should discontinue misrepresentative statements that "a white light is a better light—a light universal." A yellow bulb absorbs but a very slight proportion of the total light, since only the blue-violet end of the spectrum where there is the least brightness is absorbed by the yellow glass. The architect can start something any time he tries. Let's get together and crush this "white light" fake before it does greater harm. Last year I told fifteen million people the story in such a way that each one could verify the facts. The architect doesn't need any proof. He knows. Soon there will be laws passed censoring publicity which is misrepresentative by suggestion or inference. Every one who helps now will have the pleasure of saying "I told you so" in the very near future.

F. LAURENT GODINEZ,
Contributing Editor on Lighting.

STATION AND OFFICE BUILDING OF THE MICHIGAN CENTRAL RAILROAD AT DETROIT, MICH.

REED & STEM and WARREN & WETMORE, Architects

The new terminal is a through station located on the main line about 2,600 feet west of the portal to the Detroit River tubes. The station and office building cost about \$2,500,000, and is the last step in the extensive improvements representing an outlay of about \$15,000,000 which consisted of the twin steel and concrete tubes connecting the American and Canadian shores, and the surrounding and outlying equipment connected with them.

A thorough station lay-out was adopted, with eleven passenger tracks under the train shed, and an additional seven tracks for freight, carried on the same elevated structure. All of the tracks are supported on a steel substructure for a distance of about 640 feet, the usable space under the right-of-way being used for mail service, express and baggage. The approaches and all facilities in the station have been designed considerably in excess of the requirements of the Michigan Central, in order to accommodate the other roads which enter the city, as tenants. The Michigan Central alone handles an average of about 5,000 passengers per day in Detroit, with an estimated maximum on special days of 9,000. The number of pieces of baggage handled per day averages 1,227. The station building is located on 15th Street, near Michigan Avenue, which is one of the principal streets radiating from the center of the business district, the actual distance from the business center being a mile and a quarter. It is accessible from several street car lines, and the street car company has installed a loop from their main line on Michigan Avenue, going directly to the station, where passengers are unloaded under a covered platform, which is connected with the building by a covered bridge.

The building, which is seventeen stories in height, is a steel framed structure, with concrete and terra cotta protection for the metal. Terra cotta partitions are used throughout. The base course is of granite; Bedford blue limestone is used up to

the sills of the first office floor, including the waiting room in front, which is partly enclosed by the end walls of the main building. Above this first office floor a light colored pressed brick, which harmonizes with the limestone, is used up to the twelfth floor. Above the brick is ornamental terra cotta.

The lower story of the building covers an area 345 by 266 feet. The office building which rises 240 feet from the curb is I-shaped in plan, being 241 feet long by 54 feet wide, with the end bays 52 feet wide and 106 feet in length. The office floors are thirteen in number, each having an area of about 24,000 square feet. The story height is 12 feet 6 inches and the offices all have outside light, being arranged on either side of a central corridor 12 feet wide. The main waiting room is about 100 by 200 feet with a ceiling height of 63 feet. The ceiling is timbered arching and the roofing of copper. The concourse is a room 78 feet wide, as long as the waiting room and over 40 feet high. A ramp over 70 feet wide connects it with the passenger subway under the tracks.

All the facilities for handling passenger business are located on the first or street level floor. While there are three main entrances to the station for passengers, the building has been designed with the expectation that about seventy-five per cent of the people will come on street cars, and will use the east entrance from the street car loop, entering the building from this side, which leads directly to the ticket lobby, located in the center of the building. This lobby opens into the main waiting room to the right and the concourse to the left. The bank of elevators just inside of the entrance contains five for passengers and one for freight, serving the office floors above. To the south of the elevator corridor is the barber shop, together with bath and dressing rooms. West of the elevator corridor in the arcade are located the drug store, telephone and telegraph booths, news stand and parcel room. At the east end of the main wait-



THE STATION FROM THE TRACK SIDE UNDER CONSTRUCTION.

Structural Engineers: Balcom & Darrow.

ing room is the women's waiting room, and in connection with it a series of private bath and dressing rooms. At the west end of the main waiting room is a men's reading room, which will appeal strongly to men who desire to retire from the bustle and confusion of the general waiting room, and who do not wish to smoke. The dining hall and lunch room can be reached either from the main waiting room or from the concourse. At the west end of the station is the cab and carriage entrance, connecting with a covered carriage enclosure.

At the east end of the concourse is the main exit, opening out on a covered balcony, which connects with the street car shelter. It is expected that most of the incoming passengers will use this exit,

passing directly from the train shed subway out of the building, without conflicting with passengers going to their trains. The train shed is 250 feet wide, with an extreme length of 1,104 feet. It covers eleven tracks, and is enclosed on the north and south sides.

The general trend in construction is reversed in the case of train sheds. Each year sees other types of buildings becoming higher, more ornate in detail and more complex in equipment. The train shed design strives for simplicity, for a succession of low, unadorned units which can be erected and maintained with the minimum expense of time and money.

There are seven general specifications to which the successful train shed must conform.



THE FRONT OF THE STATION.

Builders: George A. Fuller Co.

Reed & Stem and Warren & Wetmore, Architects.

1. It must be capable of being erected with the minimum of interference with traffic conditions.

2. It must give an abundance of light to shed platforms and car windows in all conditions of weather.

3. It must be well ventilated, i. e., smoke and gases must find their exit promptly into the open air.

4. It must be well protected from the weather; it must admit only a minimum of rain and snow upon the platforms.

5. It must be in the highest degree immune to deterioration, and such maintenance as is necessary must be carried on with the greatest ease.

6. It must be capable of being enlarged indefinitely without disturbing the architectural harmony.

7. It must be built cheaply and rapidly.

The old type of steel-arch train shed violated all these specifications. Having as its main feature the wide-sprung arch, false work was necessary for erection as well as for any considerable subsequent repairs. Skylights being high, of comparatively small area and difficult to keep clean, made frequent recourse to artificial lighting necessary—ordinarily from the arc light with its attendant heavy shadows. Smoke and gases from the engines poured out into the shed enclosure, vitiating the air, obscuring the light and causing rapid corrosion of all metal members of the structure. Having a high vaulted opening at one end, it offered little protection to storms coming from that direction. With its long spring of arch, any other protective metal covering than paint was not possible, and corrosion from the sulphur-



GENERAL WAITING ROOM, MICHIGAN CENTRAL, DETROIT STATION.

Reed & Stem and Warren & Wetmore, Architects.

Builders: Geo. A. Fuller Co.
Painting: W. P. Nelson Co.
Chicago Spring Butts.



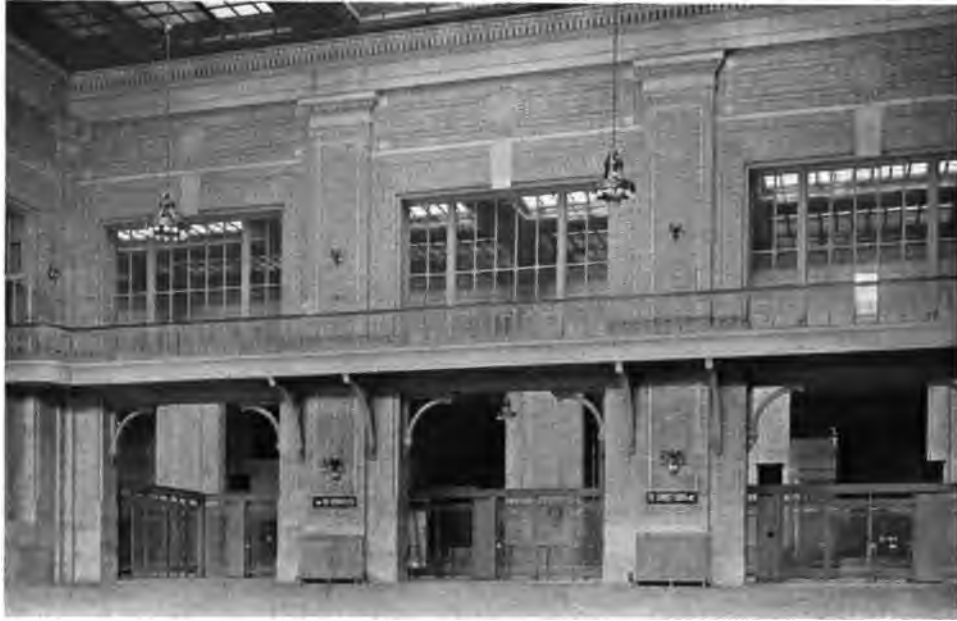
TICKET LOBBY FROM WAITING ROOM.

Reed & Stem and Warren & Wetmore, Architects.



TICKET LOBBY.

Cutler Mail Chute.
Stanley Butts Used.
Terra Cotta Trim: Federal Terra Cotta Co.



TRAIN CONCOURSE.

Front Brick: Hay Walker Brick Co.
Star Expansion Bolts.



THE STATION ENTRANCE.

Terra Cotta: Federal Terra Cotta Co.
Evan's "Crescent" Expansion Bolts.
Barrett Roofing Materials Used.
J-M Waterproofing.

Reed & Stem and Warren & Wetmore, Architects.

ous gases began when the first engine entered the shed. This resulted in the necessity for frequent painting and in an abnormally high breakage of skylight glass. Designed as it was in one large unit, an addition, to be architecturally harmonious, had to take the form of a duplication, perhaps on a somewhat small scale—a thing not always possible and rarely economical. By reason of the area enclosed, the cost was altogether out of proportion for a structure designed to carry only its own weight in addition to such snow loads as might be imposed.

As a means of remedying these defects the low-lying umbrella form of shed was evolved. This form found its first general expression in the Lackawanna Railroad station in Hoboken, N. J., from designs by Lincoln Bush, chief engineer of the company.

The umbrella type provides a very happy solution of all the problems involved in train shed construction. It is low and easy to erect and maintain; it has large skylight area close to the platforms; it permits gases and smoke to escape at once, regardless of the position of the engine; it affords excellent protection against rain and snow; it has no metal exposed to the attack of sulphurous gases; it can be added to, to any extent, by a simple dupli-

cation of one or more of the units of which it is composed; and experience has shown that it costs about 40 per cent as much as the old type per unit of area covered. This includes shop cost and erection.

The advantages of this type of construction secure excellent light, freedom from smoke and gas, abundant ventilation and general sanitary appearance. The shed in Detroit is noteworthy for its excellent light. On a sunshiny day the shadows of the columns supporting the roof of the shed can be seen on the platforms, showing this shed to be very superior to the high arch type from the standpoint of light.

There is but one thing, however, that has made possible the building of this umbrella type of shed, and that is wire glass. With the comparatively large area of skylight, the danger of falling glass had to be eliminated absolutely.

Practical experience demonstrated very shortly that there is a wide difference in the behavior of the various kinds of wire-glass when used in these buildings. The result of experience has been that continuous process solid wire glass has been selected and used in practically every structure of this character, both here and in Canada, including the Michigan Central in Detroit.



BUSH TYPE TRAIN SHED.

Pennsylvania Wire Glass Used.

Below the viaduct carrying the passenger and freight tracks are located the baggage, express and mail rooms. The baggage is trucked to and from the checking counter in the concourse to the baggage rooms under the tracks over a ramp. It is handled to and from trains on elevators in the passenger platforms. One of these elevators is provided near the end of each platform, so as to eliminate most of the

trucking along the platform, electric motor propelled trucks being used throughout.

The builders were the Geo. A. Fuller Co.; the terra cotta was supplied by the Federal Terra Cotta Co., and the face brick by the Hay Walker Brick Co. Balcom & Darrow were the structural engineers, and the Bush type of train shed was employed, the glazing of which was done with Pennsylvania wire glass.



TRAIN SHEDS AND STATION BUILDING.



PRIVATE ART GALLERY FOR MR T. F. RYAN, 67TH STREET, NEW YORK.

Builders: Marc Eidlitz & Son.
Chicago Hinges.

Thomas Hastings, Architect.



WROUGHT IRON GATE AT THE ENTRANCE TO THE ART GALLERY.

Ornamental Iron: John Polachek Bronze & Iron Co.

Thomas Hastings, Architect.



BRONZE GRILLE AT ENTRANCE TO CONSERVATORY, ART GALLERY FOR MR. T. F. RYAN.
Bronze: John Polachek Bronze & Iron Co. Thomas Hastings, Architect.



ST. EDWARD'S CHURCH, BROOKLYN, N. Y.

Decorations: Rambusch Decorating Co.



ST. MATTHEW'S CHURCH, BROOKLYN, N. Y.

McKenzie, Voorhees & Gmelin, Architects.

Seats: Huntington Seating Co.



EDUCATION IN WOODFINISHING

By WILLIAM P. COMSTOCK

In the finishing of wood, particularly of the trim of a home, there is as much diversity of treatment possible almost as there is diversity in the individual tastes of the owners. There is no more important subject in finishing interiors than this very point of finishing the trim. Whatever the other appurtenances of the interior may be, the finish of the woodwork, be it no more than the doors, cases, window frames and base, is often the determining factor of the style and is really the point that determines the character of the interior. There is no more beautiful an adornment than fine woodwork and it is almost invariably for an elaboration of trim, from the addition of a chair rail or plate rail to wainscoting or even full paneling, that spare money is spent. The ambition of almost every home builder is to have a finely finished hall and this invariably takes expression in woodwork. If more money may be spent, it generally appears in the beautifying of the dining room or library with fine woods. So also the owner will increase his expenditure materially by using more expensive and more beautifully grained hard

woods, simply for their increased decorative effect.

The finishing of woods also is largely a determinant of style. For instance in Colonial style, the white finish is as important a factor as the type of the moldings. Other styles are as characteristically marked. Interiors of Tudor, Gothic, Flemish and other periods are quite as well recognized by pronounced color effect as by the character of the relief ornament. Just as the styles demand characteristic finishes, so the individual taste and personal preference of individuals, make similar demand and these are multiplied by the requirements of different kinds of houses and variation in the rooms.

The average person has a hazy notion as to wood finishing. Although almost everyone is familiar with a great number of finishes, colors and shades, there is a vast lack of exact information. Even the architect has a limited horizon. He knows a great deal more than the average individual, but there are very few in the profession who are well enough informed to satisfy the demands of even the average client. The client comes to an architect

filled with ideas on every conceivable subject about the house including the woodwork. He may even have very definite ideas about what he wants in the finish of the woodwork, more definite perhaps than on anything else in the house, and yet he is utterly unable as a rule to give expression to his thoughts and tell the architect what he wants. Materials are discussed; it is oak, or chestnut, or cherry, or gum or perhaps a more expensive imported wood. Again it may be cypress, or pine or fir, and very often it is the very cheapest grades of the commoner woods and wonderful results are expected of them. With



THE CONVENIENT AND COMPACT DISPLAY CABINETS.

the plans drawn, the specifications written, and the bids in, the kind of wood and trim determined upon, the painter comes into his part and here we have a three-cornered argument; architect, owner and painter, each striving to make the other understand, the painter often experimenting in hopeless agony, the architect distraught and the client dissatisfied.

Many are familiar with the Jesup collection of the woods of North America which may be seen in the American Museum of Natural History, New York. What this collection represents as a display of the natural woods, unfinished and varnished, a new collection (and we feel that

it well deserves the dignity of the title) does for the wood finishes.

This collection is in a permanent exhibition conducted by the Bridgeport Wood Finishing Company in the Craftsman Building, 6 East 39th Street, New York. The collection contains about 1,300 finishes, the selection of about 4,000 experimental finishes which have been developed by the chemists of that company. The display is accessibly presented in wall cabinets and each exhibit labeled carefully as to just what the wood is and the kind of finish applied. There are many kinds of wood, including French, Circassian, American and Peruvian walnut; Mexican, Santo Domingan, Cuban, East Indian and African mahogany; olive, ebony, mahajua, rosewood, satin wood, amaranth, koko, camphor wood, teak, red cedar, poplar, curly maple, hazel, red gum, cherry, sequoia, many varieties of oak, birch, maple, chestnut, cypress, pine and fir. An important point about these wood samples is that they do not represent selected pieces of the various lumbers but the average of the timber cut for commercial purposes. They show practically all the common varieties of milled lumber used for trim in widely scattered localities throughout the United States. They represent the kinds and qualities of wood that the average home builder is apt to purchase.

Upon these samples the finishes are applied and they are finished as the ordinary painter would finish them.

By means of this exhibition, which is in charge of a most competent curator, the problems of architect, client and painter may be most easily and satisfactorily solved. If samples of the actual trim that is going into a certain house be brought to this museum they may be compared with wood of the same kind and quality in all the practical finishes which that definite kind of wood will take. The possibilities are almost unlimited as to color, surface and shade, but still there are finishes which are impractical to certain woods for various causes and it is here possible also to find out the limitations of treatment possible with a given kind of wood. The client may realize his ideal, and the architect may get the specifications to produce the result, and the day of fruitless experiment on the part of the painter is over.



SCOTTISH RITES TEMPLE, WASHINGTON, D. C.

John Russell Pope, Architect.

Otis Elevators,
Chicago Hinges.

Builders: Norcross Bros. Co.
Cut Stone Contractors: Ingalls Stone Co., Inc.
Stone Carving: Ardolino Bros.
Rolling Steel Shutters: Jas. G. Wilson Mfg. Co.



CENTRAL DISPENSARY AND EMERGENCY HOSPITAL, NEW YORK AVENUE, WASHINGTON, D. C.

Builders: Wells Brothers Co.
Front Brick: Hydraulic Press Brick Co.
Plumbing and Heating: W. G. Cornell Co.
Painting Contractors: The Barker Painting Co.
Otis Elevators.
Stanley Butts Used.

Nathan C. Wyeth, Architect.

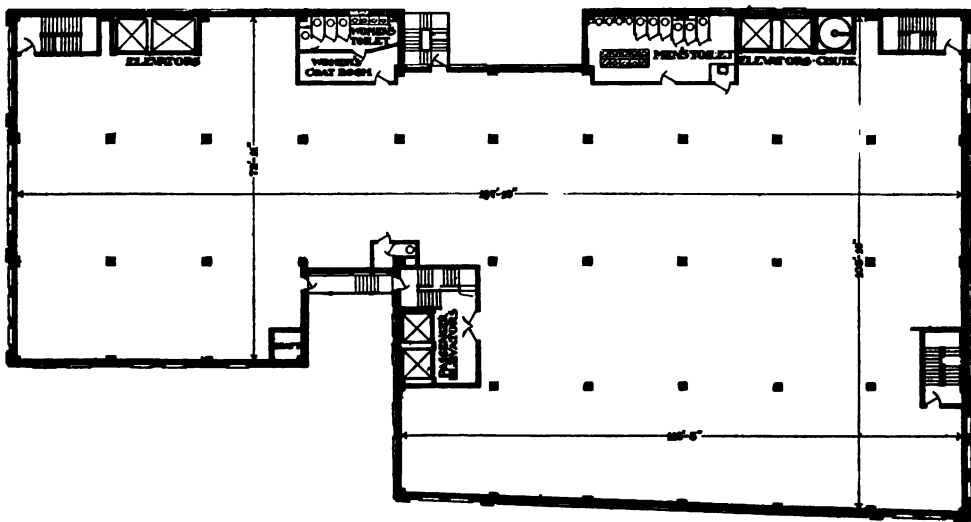
HALLENBECK-HUNGERFORD BUILDING

WILLIAM E. AUSTIN, Architect

This building is located between White and Franklin Streets on Lafayette Street. The area of the plot is about 19,600 square feet and the typical floor area is about 1,800 square feet. The building is sixteen stories high and has exceedingly high stories. The ceiling heights in the clear are: Basement, 11 feet, 9 inches; first floor, 15 feet, 9 inches; second floor, 12 feet, 6 inches; third to sixth floor, 11 feet, 11 inches; seventh to fifteenth, 11 feet, 9 inches. The floor girders and beams vary from 2 feet, 7 inches to 2 feet, 9 inches in depth from the finished floors. The bays are typical, 20 x 26 feet, which makes very wide column spacing, a great advantage in the arrangement of machinery such as printing presses. The carrying capacity for live loads is four hundred pounds per square foot on the lower floors, with three hundred pounds per square foot above, graduating to two hundred and fifty pounds at the top. There are two A. B. See electric passenger elevators running at a speed of 400 feet per minute with 3,000 pounds capacity. They are approached from the main entrance on the Lafayette Street side. At the two freight entrances on White and Franklin Streets

there are two freight elevators each, with the capacity of 5,000 and 8,000 pounds, running at a speed of 250 feet per minute. There are four stairways each enclosed in a fire tower. The building is protected with automatic sprinklers, and was erected at the cost of approximately \$2,000,000. It is designed particularly for the use of concerns using machinery or carrying heavy stocks. The Wynkoop, Hallenbeck, Crawford Company will occupy four floors and the U. T. Hungerford Brass & Copper Company will occupy ground floor, basement and second floor. The other floors are occupied by printers, lithographers, etc.

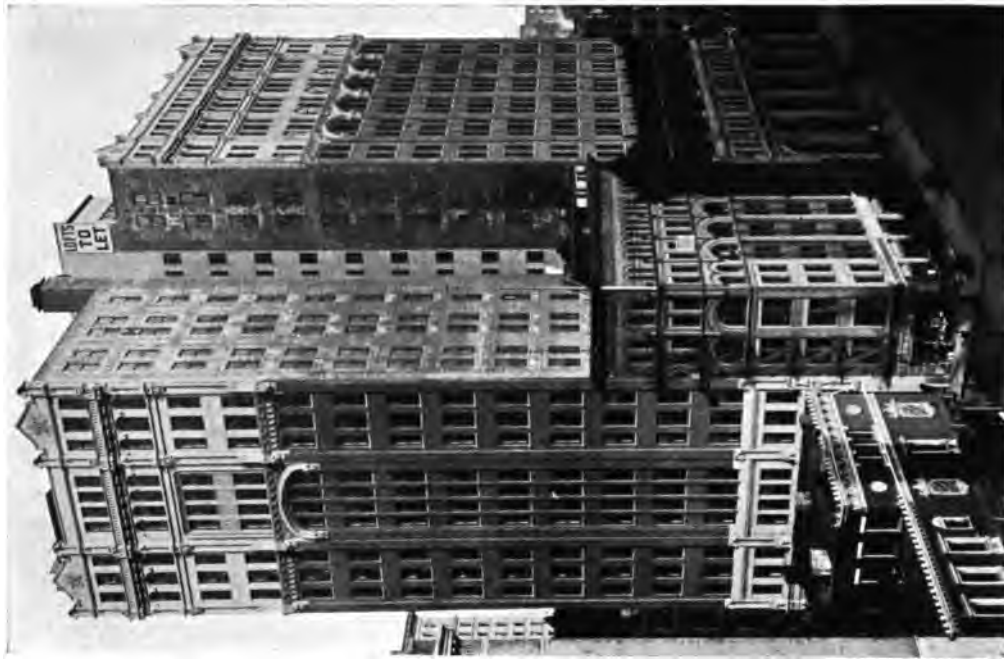
William E. Austin was the architect and the Geo. A. Fuller Company, the builders. Chas. E. Knox, C. E., was the engineer for the power, electric and elevator equipments. The W. G. Cornell Company had the contract for the plumbing of the building and installed the sprinkler system, using the "Associated" head. The marble work, mosaic and tile work was done by D. H. McLaury Marble Company, the hallway on the Lafayette Street side being paneled in marble of rich appearance.



TYPICAL STORY PLAN.



Builders: George A. Fuller Co.
 Atlantic Terra Cotta,
 Plumbing and Sprinklers:
 Stanley Butts Used.
 A. B. See Elevators.



HALLENBECK-HUNGERFORD BUILDING, LAFAYETTE STREET, NEW YORK.

Reliable Vacuum Heating Equipment:
 The Bishop, Babcock, Becker Co.
 Loomis-Manning Filters.
 Evans' "Crescent" Expansion Bolts.

William E. Austin, Architect.
 Engineer for Power, Electric and Elevators:
 C. E. Knox, C. E.

The mechanical plant of the building consists of four Worthington water tube boilers, manufactured by James Beggs & Co. These boilers supply the steam for the mechanical plant of the building and the heating which may be accomplished direct or by exhaust steam from the engines. There are three Hamilton Corliss engines direct connected to three Crocker Wheeler generators, two of 300 K. W. and one of 100 K. W. capacity. This plant is sufficient to furnish power for the occupants of the building as well as for lighting purposes. The building is wired throughout for power and lighting with many outlets, so that tenants have a minimum of wiring to do on their own account to get connections to machinery.

By the use of an air line vacuum system, a uniform, positive and rapid circulation is secured throughout the entire heating system. The air is removed from the radiators as it accumulates, causing all the radiators to operate to their full efficiency.

The system consists of two of the

Bishop-Babcock-Becker Company's electric air line vacuum pumps, and their equipment (each pump having a capacity of 35,000 sq. ft. of radiation), and 575 of their "Vacu-stats" connected to the radiators. Each equipment occupying 30 x 30 inches floor space, has an electric motor-driven pump, strainer, expansion tank, vacuum gauge and automatic electric switch and vacuum controller.

"Vacu-stats" placed on the radiators are connected to an air piping system connecting with the vacuum pumps. The vacuum pumps remove the air, create and maintain a partial vacuum in the heating system which draws the steam into the radiators quickly, completely filling them.

The "Vacu-stat" is a thermostatic air valve which automatically keeps the radiators free of air and at the same time prevents the escape of any steam. Having especially large venting capacity, it assures quick withdrawal of air from the radiators. It is made of heavy brass, the seat of composition, and the strainer of brass, silver plated. It has a thermal



ENTRANCE TO HALLENBECK-HUNGERFORD BUILDING.
Marble, Mosaic and Tile: D. H. McLaury Marble Co.

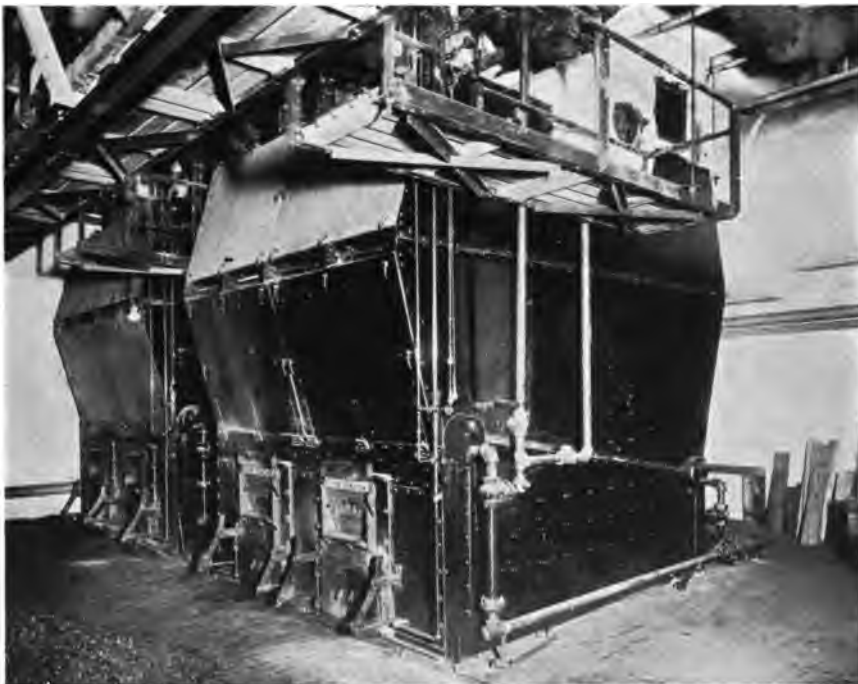
member of phosphor bronze filled with volatile liquid. This contracts and expands as temperature of the volatile liquid is lowered or raised. When the thermal member cools, it contracts and the air outlet, between the thermal member and seat below, is opened. Any air in the system then passes out of the "Vacu-stat" into the air line. When steam reaches the thermal member, it expands and closes the passage, so that no steam can escape into the air piping.

When the "Vacu-stat" is closed the vacuum pump is stopped by the automatic vacuum controller, and the partial vacuum is maintained in the air piping to the "Vacu-stat" on the radiator. The vacuum pump will remain inoperative until more air accumulates in the radiator, which opens the "Vacu-stat," starting the pump. When steam reaches the "Vacu-stat" it closes it again and stops the pump. The piping being tight, the vacuum pump remains inoperative the greater part of the time, and the electric current required in its operation is very small.

The operation of the motor and pump is controlled by a special automatic electric switch and vacuum controller which stops and starts the pump as the degree of vacuum is changed. The range between starting and stopping being from 2 to 3 inches, the desired degree of vacuum can readily be maintained in the entire heating system. The partial vacuum being maintained in the heating system makes it possible to heat the building comfortably with steam at or below atmospheric pressure, so all back pressure is removed from the engines and pumps while heating with exhaust steam.

The expansion tank assists the automatic vacuum controller in maintaining a steady vacuum and prevents the jar that might accompany the stopping and starting of motor and pump, at full speed, making its operation noiseless.

The special strainer, which is readily cleaned, catches all dirt and foreign matter that accumulates in the radiators and piping between heating seasons, before reaching the vacuum pump.



TWO OF FOUR BOILERS FOR POWER PLANT.
Worthington Water Tube Boilers Manufactured by James Beggs & Co.



HURT BUILDING, ATLANTA, GA.
Marble from Quarries of the Georgia Marble Co.
Otis Elevators.
Chicago Hinges.

J. E. R. Carpenter, Architect.



ENTRANCE TO THE HURT BUILDING.

Marble Work: The Blue Ridge Marble Co.
Bommer Spring Hinges.



HURT BUILDING. INTERIOR OF THE SIXTH DISTRICT FEDERAL RESERVE BANK.
ELEVATOR CORRIDOR.

Banking Equipment: Thomas Bruce Boyd.
Cutler Mail Chutes.
Directory Boards: U. S. Changeable Sign Co.



GOELET BUILDING, 402 FIFTH AVENUE, NEW YORK.

Builders: George A. Fuller Co.

Cutler Mail Chutes.

Otis Elevators.

Chicago Hinges.

Troegerlith Cork Composition on Stair Treads.

Ornamental Iron: Harry E. Campbell Co.

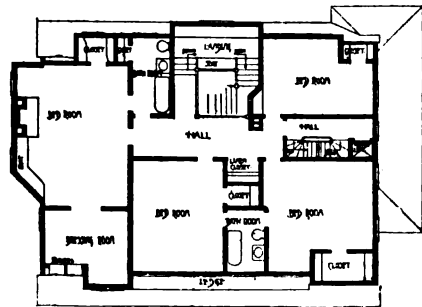
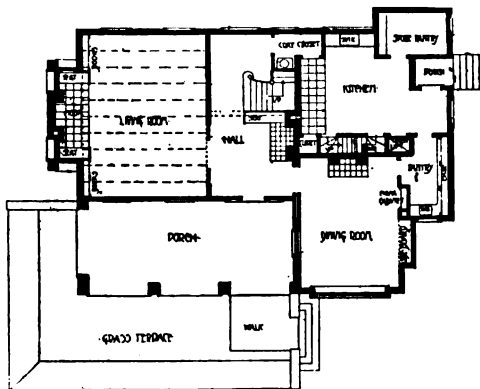
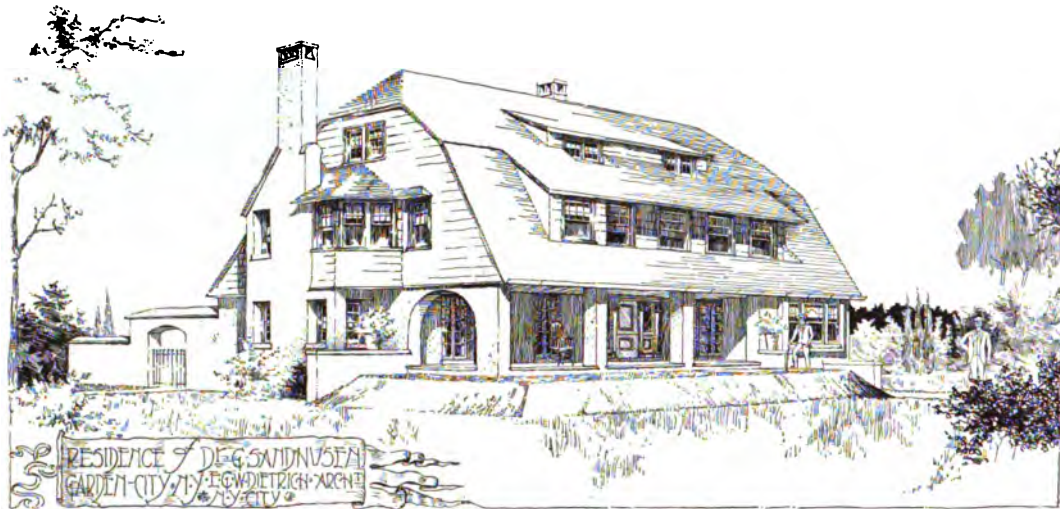
Terra Cotta: New York Architectural Terra Cotta Co.

Warren & Wetmore, Architects.

Structural Engineers: Balcom & Darrow.

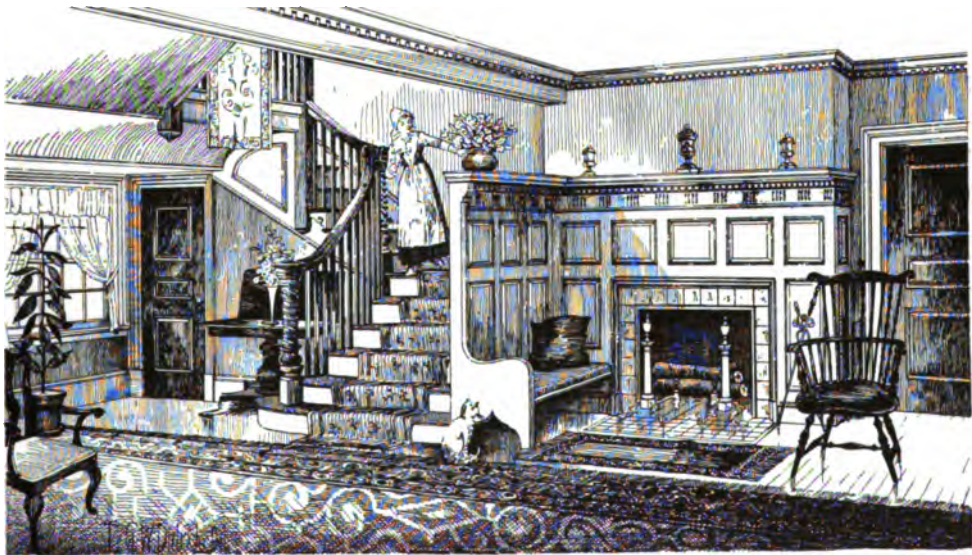
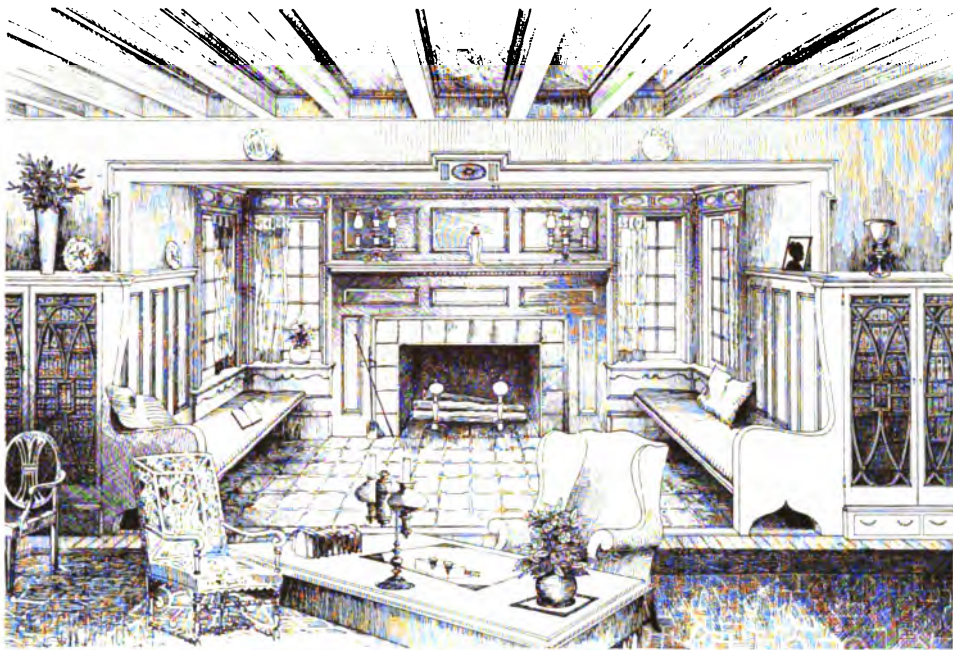


GOELET BUILDING. STORE OF MARK CROSS CO.
Painting: The Barker Painting Co.
Ornamental Iron Piling: Harry E. Campbell Co.



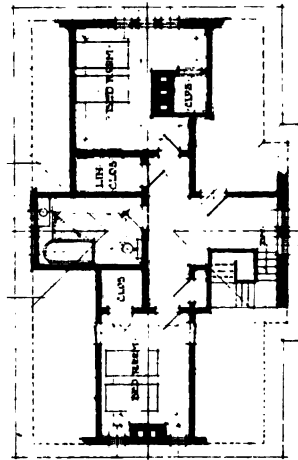
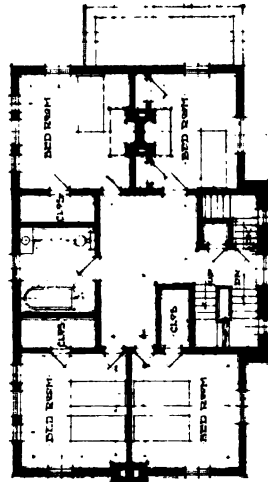
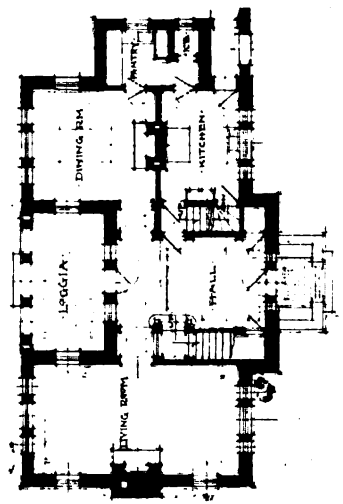
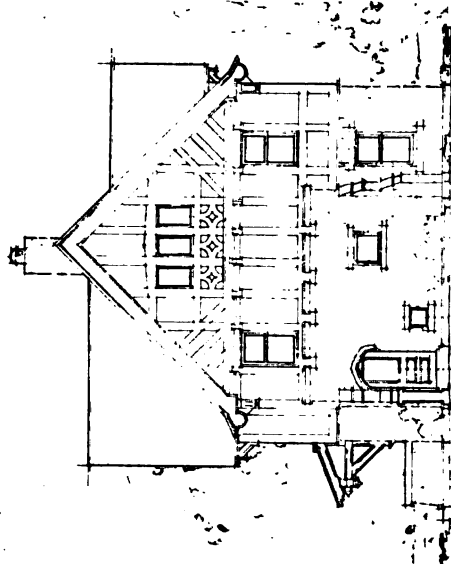
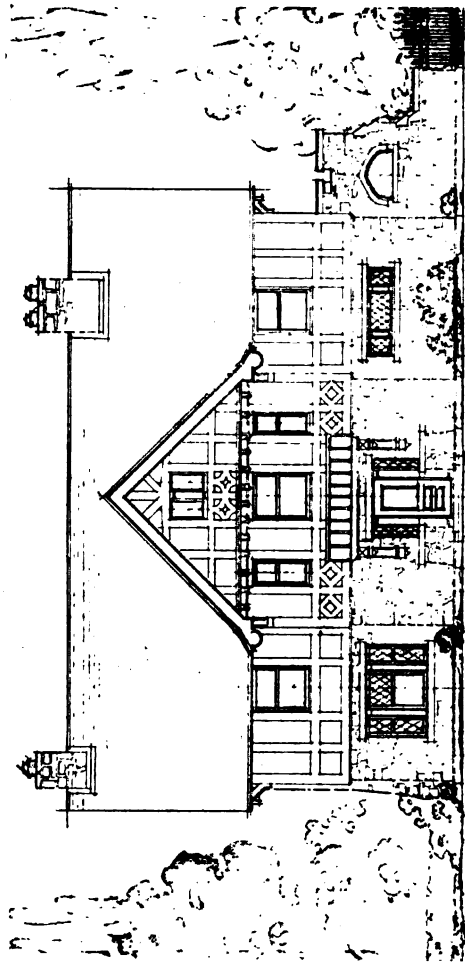
RESIDENCE DESIGN.

E. G. W. Dietrich, Architect.



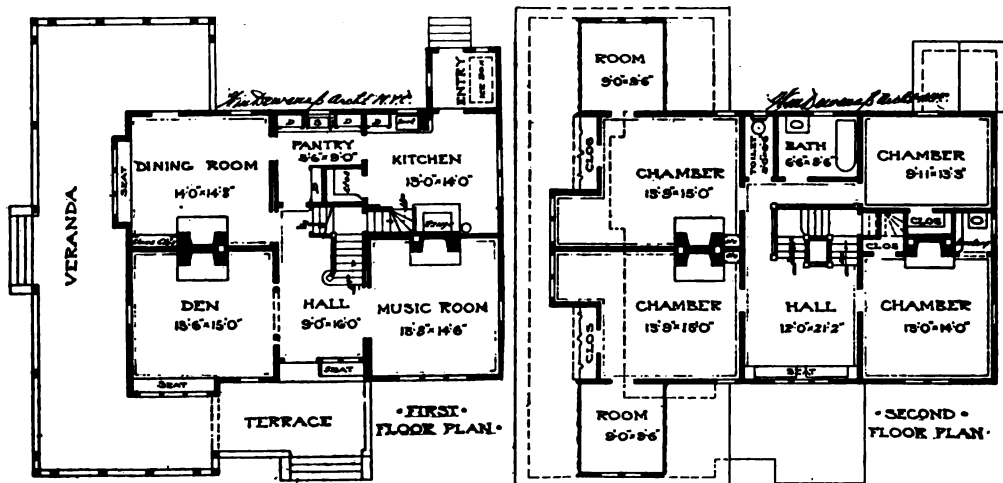
RESIDENCE DESIGN, INTERIORS.

E. G. W. Dietrich, Architect.



DESIGN FOR A SUBURBAN HOUSE.

David C. Comstock, Architect.



SUBURBAN RESIDENCE.

William Dewsnap, Architect.



COLUMBIA HOSPITAL, WASHINGTON, D. C.

Buckeye Galvanized Conduit: The Western Conduit Co.
Painting Contractors: The Barker Painting Co.
Electrical Contractors: Carroll Electric Co.

Nathan C. Wyeth, Architect.



—COMPARE—

The work of the
Illuminating Engineer

vs.

The work of the
Lighting Specialist

CAUSE OR EFFECT

ONE photograph! 6-100 watt lamps in each window
Prism shades (on left) vs. Home Made shades of white blotting paper (right)

Display Window Lighting

By F. LAURENT GODINEZ

Is filled with remarkable examples of a pioneer specialist's work. It is absolutely original, and contains no "theory" or "dry rot." The blunt facts about commercialized lighting are presented forcibly and in a manner inimitable. The book shows that White Ways are robbing American cities of personality.

TABLE OF CONTENTS

| | |
|--------------------------------|--------------------------------|
| Preface. | VII Lighting With Electricity. |
| I The City at Night. | VIII Lighting of Signs. |
| II Advertising and Attraction. | IX Color Attraction. |
| III Utilization of Light. | X Action in Display Lighting. |
| IV Application of Light. | XI Before and After. |
| V Cause and Effect. | XII Modern Display Lighting. |
| VI Lighting With Gas. | |

266 Pages 6 x 9, 115 Illustrations, 3 Color Plates, Net \$2.00

The Wm. T. Comstock Co., 23 Warren Street, New York

BOOK REVIEWS

DESIGNING HEATING AND VENTILATING SYSTEMS. By Chas. A. Fuller. New York, David Williams Company. Cloth 6x9, 220 pages, 78 illustrations. Price, \$2.

This book is written by a man of large experience in the problems of heating and ventilating. It is a practical application of the engineering rules and formulas in everyday use. It covers the subjects of laying out of steam, hot water, furnace and ventilating equipments for buildings of all descriptions. The theory of both heating and ventilating is handled in such a manner as to eliminate as far as possible the most difficult mathematical computations and expressions, and, at the same time, in a thorough manner. Upon the subject of ventilation there are special chapters on the ventilation of the school, the theatre and the factory. As examples of the principles set down, problems are presented in connection with the chapters on many of the subjects, so as to fix the principles involved firmly in the student's mind. The book is well adapted for use in colleges, technical and trade schools.

HOME BUILDER'S GUIDE. By William Arthur. New York, David Williams Company. Cloth 5x8 inches, 186 pages. Price, \$1.

Mr. Arthur says, in his preface, that in the United States we build about 340,000 new homes every year. These homes are mostly built at a cost of under \$6,000 each, and yet up to this time there has been no modern book telling in a plain way how to build an ordinary house, such a house as nine-tenths of the people who own their own homes want to build. It is a common saying that the average man builds but once, and it is com-

mon knowledge that he looks upon building a house as something that anyone can do. The average man goes into the proposition without the aid of an architect and very often builds it himself, and very frequently this is disastrous. This new book, by Mr. Arthur, aims to supply the necessary information about building a house that the owner ought to know. It is evidently not the author's plan to make every owner a master builder, for he points out the many drawbacks to the owner acting as the builder himself and putting up the building by day's labor, and buying his own materials. What the book really does is to tell its reader what constitutes a properly built house and what his relations are with his architect and with his contractor or builder, and how much he should expect of either or both.

The book is not about costs, but is an epitome of the materials of a home and gives, as is necessary, a rough idea of the expense involved in construction.

STRUCTURAL ENGINEERS' HANDBOOK, by Milo S. Ketchum, C. E., New York, McGraw-Hill Book Company, Inc. Flexible leather, 6x9 inches; 900 pages, price \$5 net.

Professor Ketchum's reputation as a compiler and author of textbooks is a recommendation and guarantee of the data for the design and construction of steel bridges and buildings which form the subject matter of this volume. The book is compiled in two parts and arranged in a manner which would suggest that for purposes of convenience, the book might be divided and bound as two volumes. The first part containing 17 chapters forms a textbook of the subject. The chapter divisions are as follows: Steel Roof Trusses and Mill Buildings, Steel Office Buildings, Steel Highway Bridges, Steel Railway Bridges, Retaining Walls, Bridge Abutments and Piers, Timber Bridges and Trestles, Steel Bins, Steel Grain Elevators, Steel Head Frames and Coal Triples, Steel Stand-Pipes and Elevated Tanks on Towers, Structural Drafting, Estimates of Structural Steel, Erection of Structural Steel, Engineering materials, Structural Mechanics, The Design of Steel Details. The text is illustrated by a great many diagrammatic figures and numerous tables.

The second part of the work is devoted to structural tables of which there are 165. It has been the aim to give tables and data that will be of use to the designing engineer and to the student in the designing room rather than to give safe loads, stresses and other pre-digested data that may be used by the novice. To this end, properties of sections are given

(Continued on page 20.)

GEORGE DOAN RUSSELL COUNSELOR AT LAW

Tribune Building New York

TELEPHONE BEEKMAN 4718

SPECIALTY:

Legal matters pertaining to Building

Engaged seven years as Architect and Builder; seventeen years in the practice of law.

March, 1915

dupl
ARCHITECTURE
AND BUILDING

Hotels

GENERAL LIBRARY
APR 12 1915
UNIV. OF MICH.

High Wages and Responsibility

Theodore Starrett

Hotels and Fires

Edward Rochie Hardy

Halation and Hostelryes

F. Laurent Godinez

Published by
The William T. Comstock Company
New York

20 c. a copy.

\$2.00 a year.



"Globe" Ventilators

combine highest efficiency with strength and durability.

Made in heavy galvanized iron, copper and Toncan metal and with glass tops when desired.

Send for Model Demonstrating Operation

Globe Ventilator Co.
Troy, New York



STUCCO Made With



IS Waterproof & NON-CRACKING

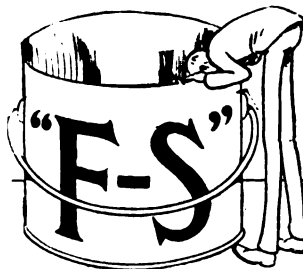


Send a Postal for Book 91

The Standard Paint Co.

New York
Boston
Chicago

Capital, \$5,000,000.00



You'll find what you've been hoping for if you
examine "F-S" Products

It isn't every day that you happen on materials that give you just the desired results. In shingle staining you'll be tickled with every job, if you specify "shinglekote." It gives a good finish and it's reliable.

FELTON, SIBLEY & CO., Inc.

Manufacturers of Colors, Paints, Varnishes Since 1863

136-140 North Fourth St.

Philadelphia

ARCHITECTURE AND BUILDING

A Magazine Devoted to Contemporary Architectural Construction

WILLIAM P. COMSTOCK
Managing Editor

THEODORE STARRETT
Contributing Editor

Volume XLVII

MARCH, 1915

Number 3

HIGH WAGES AND RESPONSIBILITY.

I was talking last winter with the business agent of one of the big New York trade unions. He was telling me of the extraordinary dearth of employment. Conditions were unheard of; a greater proportion of members out of work than ever was known before; the union funds were being depleted to save the members from eviction. "Our boys are praying for snow," said the agent, "then we can get work on the streets." Other trades and other unions in New York City were in similar straits.

To have said to the trade unionists last winter, or even now when things really seem to be on the mend, that architects and builders are made to fight for the crumbs that fall from the mechanics' table would have provoked a smile of derision. And yet I think a little study will show that that is what is happening and will continue to happen for some time.

A study of the facts in connection with the advance of trade union wages in the last twenty years shows that two things have aided the unions in their climb; one, the mistaken notion of employers that somebody else would pay, and the other, the spirit of emulation as between trades.

In this country where all men are created free and equal it does not lie well on the carpenter's stomach to think that the bricklayer is getting more money than he (the carpenter) earns; and the iron worker wants as much as the bricklayer, and the plasterer gets as much or more, and all the other trades are clamoring for equality. There was a time, not so very long ago, when the disparity in wages as between one trade and another was very great—some trades getting twice as much as the average. Then began the climb. It was not thinkable that those getting the high wages should voluntarily reduce their demands to the level of those getting the lower wages.

As I have just said, the employers of the different trades were laboring under the mistaken notion that somebody else paid, owing to the fact that in the building business there no longer existed a

condition analagous to that in other businesses where the employer was always responsible for results.

In some unions the rate of wages has advanced fifty per cent. in the last twenty years; in others one hundred per cent. In the meantime the advance in wages of the generality of workers in this prosperous land has been probably less than fifteen per cent. The advance of building wages so far beyond that of the generality has made the building business a shining mark.

You may have heard that death loves a shining mark.

I have read a story of how a mistaken notion such as that which has helped building wages to such heights was responsible for the extraordinary condition that once existed at the rolling mills in and about Pittsburgh, where the wages of the skilled mechanics reached such enormous heights that many of them drove to their work in the morning behind a team of trotters. At the office (it would not do to call it the shop) the roller or heater would hand the reins to his hired man, draw off his gloves, go to the dressing-room, put on his working clothes and start the day's work. In the evening the hired man would be at the gate with the team.

But the time came when the workmen at Homestead thought that they owned the place and that Carnegie was little better than the office boy.

Then they were shown.

The rollers with their teams of trotters are gone. I think if the truth were known about the steel business in this country today it would be found that the unions have very little to say. We certainly don't hear as much about them as we used to. All's quiet along the Monongahela.

The curbing of the unions in the steel business was done by the employers in the steel business—the same men who had allowed the unions to reach the state of inflation and arrogance that they had. The reason why these unions were curbed was because they had to be. It was a matter of life and death for their employers that they should be. The employers had been responsible for it all and they accepted that responsibility.

In building where do we see the analogy? Where can we find it? Who is the responsible employer in the building business? Not the boss in the trade. Each little group of workmen—bricklayers, carpenters, sheet metal men, steamfitters, plumbers—has at its head a bricklayer, a carpenter and so on, who is only the leader of his little clan, and not the responsible employer corresponding to a Carnegie. Neither is it the contractor—general contractor, they call him—who makes up an estimate somehow or other and then makes a bet on the total cost of getting all these different clansmen to do each his little part in the whole. No! The responsible head is the owner, and it remains to be seen what is going to happen to the high-waged mechanics of the building business.

Meantime there are few crumbs—very few—falling from the mechanic's table.

Theodore Starrett.

FROM MANGERS TO BALLROOMS

By WINNIFRED HARPER COOLEY

Architects, like dressmakers, prefer to create direct from the raw material. It is easier and pleasanter to visualize one's brain-fancies from fresh uncut lumber and gallons of bright unsoiled paint, than to "make over" a dilapidated tumble-down house, or rehabilitate an abandoned farm.

All the more credit, therefore, for the brilliant achievement of an architect, who, as if by an enchanter's wand, transforms stables into ballrooms and exquisite cafes!

This was done in an incredibly short time by Kenneth M. Murchison, in his transmutation of the *stables* of the millionaire horseman, Howard Willets, into the charming Gedney Farm *Hotel*. Inside of six months, the concrete mangers had been blown out by dynamite, and the long, low stables of the one wing converted into a picturesque ballroom, adorned with polished hardwood floors and blazing with electric lights, and in the other into a restaurant called the "Ship Grille." It was a clever idea to utilize the low ceilings by making the rooms conform to them. In the case of the Ship Grille, all the appurtenances are nautical, including a model of an old Viking ship, so that the illusion of being in the fine salon of a great ocean liner is complete. These two rooms are 40 by 80 feet, yet only 12 feet high. No architect would design a new house thus; yet the result in this case is indescribably charming.

The Gedney Farm Hotel is situated on a plateau surrounded by a charming natural forest, a few miles from the New York Central Railroad in White Plains. The turreted front and long wings suggest an old French chateau, and all the furnishings are in excellent taste, both as to color and utility. The hotel is an all-the-year-around hostelry.

Artists "enthuse" over the massive palaces of Normandy, but many were the drawbacks to being a King or Queen in

the early days. Castles which are most impressive as a stronghold, and most aesthetic, situated on an eminence with the setting sun as a background, were extremely unhygienic and uncomfortable! Cold, clammy, marble floors, and the absence of sanitary plumbing, not to speak of gas and electricity, furnace, hot water, shower-baths, porcelain bathtubs, and fireless cookers, were not conducive to great physical comfort. Most of us moderns, would vastly prefer a Harlem flat, of the "six-room-and-bath" variety!

Whatever pig-stys, cow-barns, and horse-stalls once comprised the original Gedney Farm were spirited away by the



OLD FARM STABLE NOW A BALLROOM.

modern architect. Windows were cut through the concrete; stalls were ripped out; and several stories added to the wings, so that the abode for animals became a modern palatial hostelry, glowing with warmth and shining with electricity. The billiard-halls, swimming-pool, and up-to-date bowling alleys are only a part of the attractive equipment.

Outside, there is a garden surrounded by pergolas, and flanked by tennis courts. Inside, the delicate tracery of pale green lattice on the ceiling is greatly admired.

As far as eye can reach in every direction, the approach is extremely impressive. At the "back" of the hotel (in so far as there is a back) there is a unique gate topped by lanterns. Nearby, is the Gedney



GEDNEY FARM HOTEL, WHITE PLAINS, N. Y.

General Contractor: Frank N. Goble.
Plumbing Contractor: Gus J. Staats.
A. B. See Elevators.
Fireproof Doors: Leonard Sheet Metal Works.
Roof and Deck Cloth: John Boyle & Co.

Kenneth M. Murchison, Architect.
Charles C. Hurlbut, Engineer.



BALL ROOM AND DINING ROOM, GEDNEY FARM HOTEL.

Furniture and Furnishings: John Wanamaker, N. Y.
Bentwood Chairs: Jacob & Josef Kohn.
Floors: The Marbleoid Co.
Jewett Refrigerators.
Directory Boards: U. S. Changeable Sign Co.
Portable Footlights: Universal Electric Stage Lighting Co.

Farm Golf and Country Club, with its polo field, football area, kennels, cattery, and stables, which house the historic Liberty coach.

Fashionable guests, who winter or summer at this place, little dream of its lowly origin, or of the extremely able architectural feat so recently accomplished.

Kenneth M. Murchison was the architect and Charles C. Hurlbut, the engineer. Frank N. Goble was the general contractor, while the contract for the furniture and furnishings throughout was

held by John Wanamaker, New York, and the tile and marble work was done by William H. Jackson Company. Gus J. Staats was the plumbing contractor. The elevators are A. B. See electric. The fireproof doors were made by the Leonard Sheet Metal Works, and the floors were laid by The Marbleoid Company, and the roof and deck cloth was supplied by John Boyle and Company. The Universal Electric Stage Lighting Company furnished an equipment of portable footlights for the stage used for small entertainments.



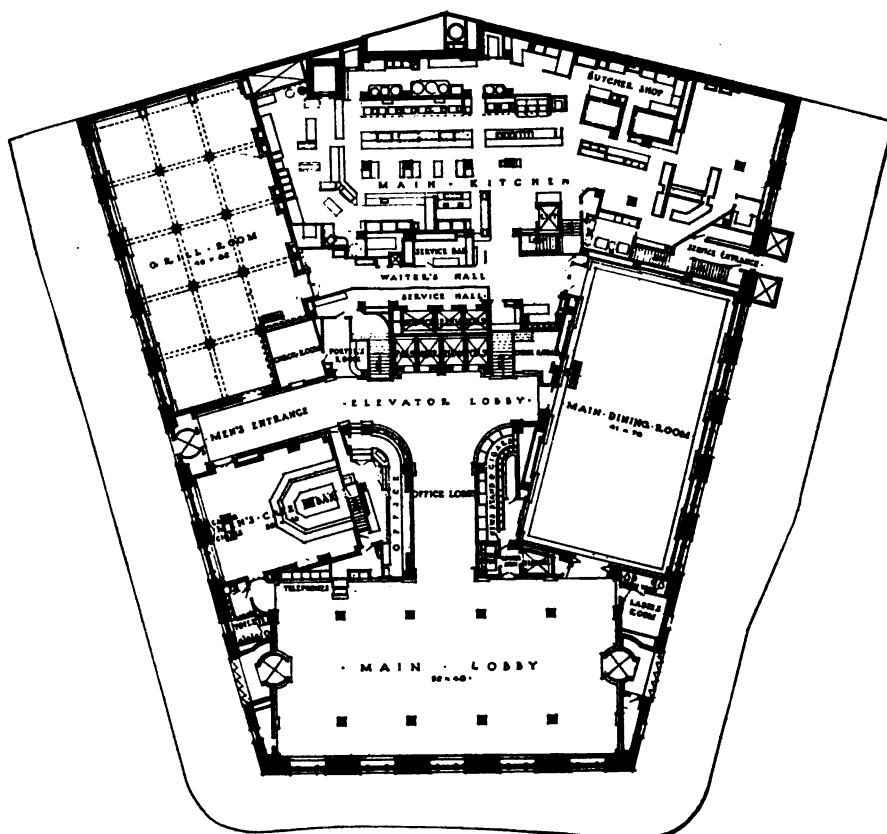
THE FOUNTAIN.
Tile and Marble: Wm. H. Jackson Co.

HOTEL STATLER, DETROIT, MICH.

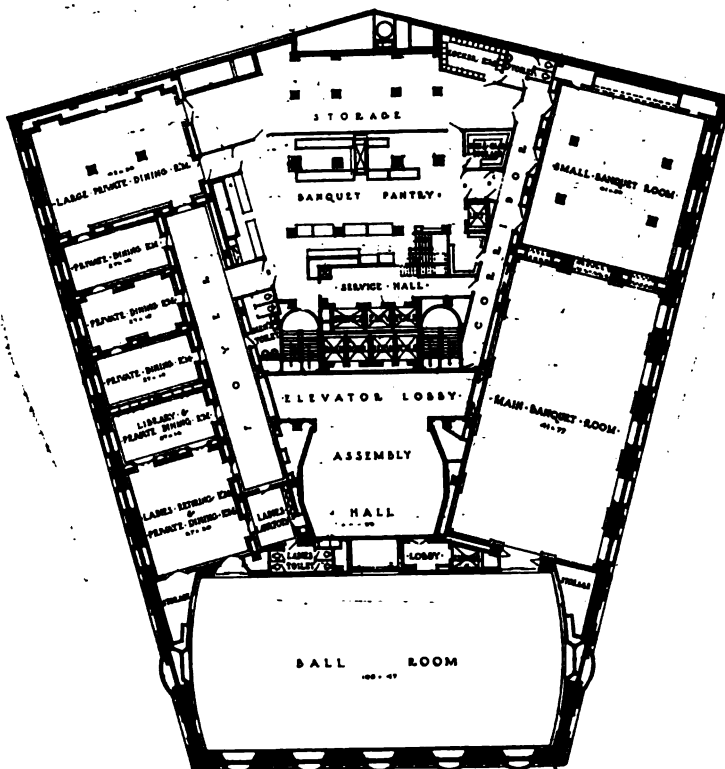
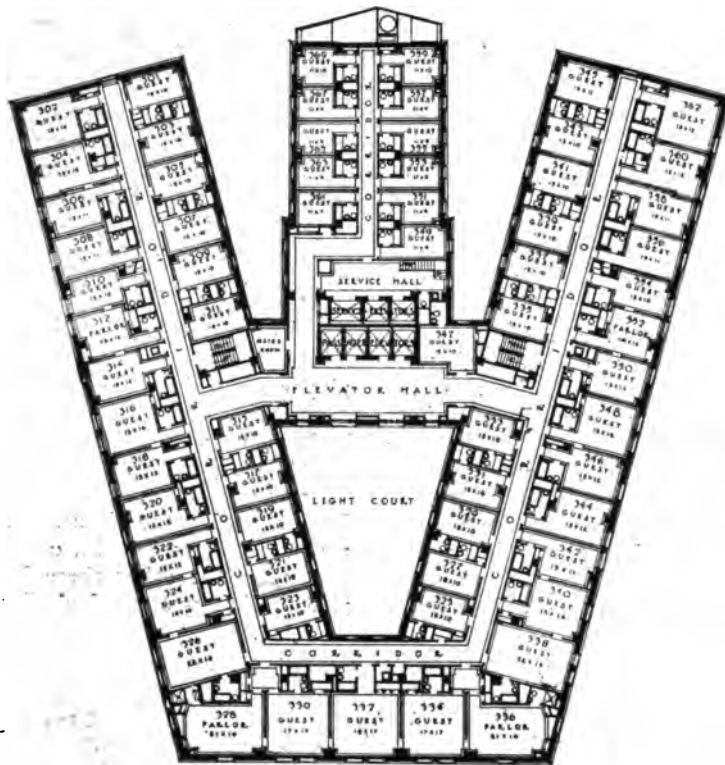
GEORGE B. POST & SONS, Architects

Facing Grand Circus Park in Detroit, the Hotel Statler occupies an irregular site, which has been most advantageously developed by the architect. The building is eighteen stories high and contains 800 bedrooms, 400 of which are equipped with tub and shower baths, and 400 with showers only. The main entrances are placed on the two side streets, and open into either side of the lobby. The first story is planned to give most excellent circulation between the various rooms. The main lobby, which is for general uses, is succeeded by the office lobby which leads directly to the passenger elevator corridor, from which there are immediate entrances into the dining rooms and on one side to an additional street entrance. There is no area below the

street devoted to the use of guests, for in the planning of this hotel the barber-shops, public lavatories, etc., are placed in a mezzanine story immediately above the first. The main lobby and main dining-room are rooms of two story height. In the mezzanine immediately above the main kitchen are also placed the male helps' dining-room, toilets, locker rooms, etc., for all the kitchen and service employees, and in addition the offices and business departments of the house. What is known as the first floor is another double story which is the entertainment floor of the house. The ballroom, 47x100 feet, occupies the front, two banquet rooms, 41x77 and 41x50, occupy one side, and upon the other there is a series of private dining-rooms, including one 30x42



HOTEL STATLER. MAIN STORY PLAN.



HOTEL STATLER. FIRST AND TYPICAL STORY PLAN.



HOTEL STATLER, DETROIT, MICH.

Builders: George A. Fuller Co.
 Front Brick made by Yingling-Martin Brick Co.,
 and furnished by Pfotenhauer & Nesbit Co.
 Metal Lathing: Arthur Greenfield, Inc.
 Expanded Metal Engineering Co., makers of Metal Lath.
 Terra Cotta: New York Architectural Terra Cotta Co.
 Shone Sewage Ejector Plant: Shone Co.
 Bake Ovens: L. Barth & Son.
 Otis Elevators.
 Cement Floors and Walks: Harrison & Meyer.

George B. Post & Sons, Architects.
 Henry C. Meyer, Jr., and Bassett Jones, Assoc.
 Engineers, Heating, Ventilating, Electric and
 Elevator Equipment.



HOTEL STATLER. MAIN LOBBY.

Ornamental and Plain Plaster: H. W. Miller, Inc.
Bentwood Chairs: Thonet Brothers.



HOTEL STATLER. MAIN DINING ROOM.

Silver Service: Reed & Barton.
Mirrors: A. H. Notman & Co.
Wedgwood Panels: Josiah Wedgwood & Son, Ltd.

George B. Post & Sons, Architects.



HOTEL STATLER. MEN'S CAFE, MAIN STORY AND MAIN BANQUET ROOM LOOKING INTO SMALL BANQUET ROOM, FIRST STORY.

Carpets manufactured by Hardwick & Magee Co.
Draperies manufactured by Orinoka Mills.
Ornamental and Plain Plaster: H. W. Miller, Inc.



HOTEL STATLER. GRILL ROOM.

George B. Post & Sons, Architects.

Silver Service: Reed & Barton.
Ornamental and Plain Plaster: H. W. Miller, Inc.
Chairs: The Marble & Shattuck Chair Co.



ENTRANCE TO STATLER HOTEL.

feet. In the centre, immediately before the elevators, is an assembly hall which groups the entire arrangement of rooms. The rear portion of the floor contains the banquet pantry and service portion.

The stories occupied by guest rooms follow closely a typical plan, there being three large, light courts, making the various bays of such width that they are planned with a central corridor with



HOTEL STATLER. OFFICE LOBBY.

Directory Boards: U. S. Changeable Sign Co.
Chairs: The Marble & Shattuck Chair Co.



HOTEL STATLER. LIBRARY AND BALLROOM FOYER.

Stair Treads and Platforms: The Marbleoid Co.
Plastering: H. W. Miller, Inc.
Carpets manufactured by Hardwick & Magee Co.
Draperies manufactured by Orinoka Mills.



HOTEL STATLER. PARLOR OF SUITE.

Lamps: A. H. Notman & Co.
 Draperies manufactured by Orinoka Mills.
 Stanley Butts.

guest rooms on either side facing either upon the street or upon the wide inside courts, so that all have the best of outside exposure. The two top stories are designed particularly for the use of traveling salesmen and have sample rooms of various dimensions, which are equipped with wall beds. Rooms of from 150 square feet to 450 square feet can be obtained. Many novelties of equipment are to be found in the guest rooms, even the key-hole receiving attention, for it is to be found above the knob, a much more convenient location. When occupied a signal device notifies employees that a guest is in the room, and the lights in the rooms are also operated from the door.

The architecture is imbued with the feeling of the Adam period. The materials employed in the facade are limestone for two stories, with red wire-cut brick and terra cotta trimmings above, with an

ornamental treatment of the top stories and cornice. Upon entering, the lobby is done in Adam style in soft browns and grey-blues. In the dining-room Chinese green is the prevailing tone, with the characteristic Adam mirrors and Wedgwood panels. It is to be noted that these large rooms are structurally free from interruption. There are no columns breaking up the areas of either the main lobby, main dining-room or of the ball-room or large banquet room on the story above. This fact has added largely to the architectural and decorative possibilities of the rooms. The ball-room is done in old ivory and rose, which is also the prevailing color scheme of the banquet rooms, the decoration following the Adam style as in the other large rooms of the house. The grill room departs from this scheme and is Elizabethan in treatment, the walls wainscoted in brown oak with hangings of heavy figured linen, marble floors and



BED ROOM OR LIVING ROOM MADE POSSIBLE BY A MURPHY IN-A-DOR BED.
 Showers with Niedecken Mixers: Hoffmann & Billings Mfg. Co.
 Carpets manufactured by Hardwick & Magee Co.
 Bedroom Furniture: John Widdicomb Co.
 Chairs: The Marble & Shattuck Chair Co.

lighting fixtures of antique brass. The furniture and all equipments correspond.

The architects were George B. Post & Sons, and Henry C. Meyer, Jr., and Bassett Jones were associated as engineers for the heating, ventilating, electric work and elevator equipment. The builders were the George A. Fuller Company. The terra cotta was supplied by the New York Architectural Terra Cotta Company, the front brick was made by Yingling-Martin Brick Co. and furnished through Pfothenhauer & Nesbit Co., and cement floors and walks were laid by Harrison & Meyer. Composition stair treads and platforms were laid by The Marbleloid Company. The ornamental and plain plastering was done by H. W. Miller, Inc. Arthur Greenfield, Inc., did the metal lathing work, the material being supplied by the Expanded Metal Engineering Co. The bedroom furniture was supplied by the John Widdicomb Company, the chairs in many parts of the hotel were made by The Marble & Shattuck Chair Company, and the bentwood chairs by Thonet Brothers. Many of the rooms of the hotel are equipped with Murphy

In-a-Dor beds, manufactured by the Murphy Wall Bed Company. The carpets were manufactured by Hardwick & Maggee Company and the draperies by the Orinoka Mills.

The silver service of the hotel was designed and made by Reed & Barton. Lamps and mirrors were supplied by A. H. Notman & Co., and the Wedgwood panels by Josiah Wedgwood & Son, Ltd.

The bake ovens were put in by L. Barth & Son, dish-washing machinery by The Couch Dean Corporation, and the automatic silver burnishing machine by the Tahara Company. The refrigerators were made by the Jewett Refrigerator Co. English sized enameled brick, made by the American Enameled Brick & Tile Company, are used for the walls in the kitchens and service portions.

Other special equipment in the hotel consists of the shower baths in the bathrooms, which were made by the Hoffman & Billings Manufacturing Company, and which are equipped with Niedecken mixers. Hotel directory boards were furnished by the U. S. Changeable Sign Company. There is a sewage ejector plant made by the Shone Company and the elevator equipment is Otis.



SILVERWARE FOR THE HOTEL STATLER MADE BY REED & BARTON.



HOTEL STATLER. DISHWASHING MACHINE AND AUTOMATIC SILVER BURNISHING MACHINE.
 Dishwashing Machine: The Couch Dean Corporation.
 Silver Machine: Tahara Co.
 Jewett Refrigerators.
 English Size Enameled Brick: American Enameled Brick & Tile Co.



HALATION AND HOSTELRIES

Try and think of every inn you were ever in,—hotels included. After this retrospection we may proceed, bridging the gap between the country "hotel" and the cosmopolitan palace in one jump, for thought even as light travels fast. The great problem in hotel lighting today is very much like every other lighting problem aside from purely industrial application,—the attainment of *individuality*.

When the illuminating engineer comes to you with his globes and shades to sell, urging that you purchase "because four other hotels have just installed these shades and fixtures"—cut him short and say, "That's just why I won't specify them in this case. Give me something the other fellow hasn't got, and *can't get*."

Then, pat yourself on the back, for civilization has become your creditor and you have asserted your independence by not allowing yourself to be bulldozed and driven along the beaten path with the rest of the herd. Let us all get together and smash this evil, flat. Refuse to specify any type of equipment which is ugly, and commonplace through common use. Show your authority. If it is a case of direct lighting, make the manufacturer furnish a special design for the exclusive use of your client. It can be done. It has been done. The Child's Restaurants, known everywhere, have the honor of being the first concern in America to assert their independence in lighting matters. Globes and fixtures of a distinctive original design have been installed in all their restaurants, under the guarantee that the same equipment will not be sold elsewhere by the manufacturers.

This sort of thing applies particularly to hotel lighting. Of course when we speak of hotels, and hotel lighting, we refer to the average condition,—not the extremes which take care of themselves invariably,—such as the village shack, and the 26-story citadel of the City, but the regular, typical "hotel," the kind that architects are designing every day in quantity lots.

Our first impressions of a hostelry are gleaned from its exterior appearance, which should be as attractive by night as by day. Luminous spheres on brackets, columns, or standards represent the conventional mode of illuminating the average exterior. Light is the revealing agent. It can compliment or exaggerate at the will of the architect. When spheres are used ground glass with its hideous "spot-light" distortion should be tabooed. Opal is preferable. All glass makers make both varieties, but as long as there is a demand for the inferior article it will be sold. Ground glass can be used when the lamp within is enclosed within an enveloping cylinder of opal, but there is no reason for this extra expense that is germane to the *average* case. Sometimes it is nec-

essary to employ unusually dense opal with the larger type of gas and electric lamps for the best effect, meaning the one most agreeable to the eye. When lanterns are used, the cluster of small lamps should be eliminated, and one large lamp substituted. By placing this larger unit well up, within the lantern hood, and surrounding it by a redirecting medium in the form of a shade or a reflector, efficiency and attraction rise to par, leaving glare and halation in the shade, where they belong. It is not difficult to make exterior hotel lighting attractive but the architect must take his pencil in hand and point the way, with a few lines. The fixture man will find inspiration from his *esquisse*, and will act accordingly, only watch that he doesn't try to unload any catalog stuff on the quiet. Insist that *your* ideas be worked out to the minutest detail. When in doubt call in some disinterested person—if you can find one—who isn't selling some lighting contraption "on the side."

When the architect takes up the interior lighting of the hotel with his client or clients, some discussion is sure to arise regarding the virtues of the various systems which have been dubbed "direct," "indirect" and "semi-indirect" by some unknown comedian, who ought to be doing a stunt in vaudeville. Regarding the pretentious claims made for each system by their promulgators—methinks they protest too much. If you could see "the infantile illuminating engineering departments" so grandiloquently paraphrased in some manufacturer's catalogs—resembling in effect a graduating class from high school—the reason or lack of it in the "bunk" they circulate so carelessly would become obvious. Said an Architect to one of these illuminators in embryo, "Pray, why do you object to my lighting arrangement for this interior? Is not the ceiling a proper *local* for lamps, and have I not arranged them thereon with admirable discrimination?" Now the embryo was typical to type. Nothing was lacking to complete the illusion. He replied: "The lumens per watt are inordinate,—it isn't efficient, you know—and—" "Oh, yes," interrupted the Architect,—"I know,—that efficiency thing; but it doesn't figure in this case. My client cares nothing about efficiency, but looks for effect." "But," protested the embryo, nervously, "the installation must be efficient for I am expected by my employer to write a paper on it for my Illuminating Society, illustrated with pictures of these globes and shades which are awfully nice,—everybody is using them, and Mr. Smith, an architect in Oshkosh, has just installed two in a laundry. The catalog number is 206,784, and this curve shows the photometric distribution for proper illumination." But hold,—enough!!!

It is possible to design effective hotel lighting which is direct, indirect, or semi-indirect. To do this it is only necessary to avoid the commonplace. To reiterate,—and I would like to repeat it a thousand times—DON'T SPECIFY LIGHTING EQUIPMENT WHICH IS COMMONPLACE! If you design one hundred hotels, make the lighting of each one DIFFERENT. Do this every chance you get, and tell all your friends in the profession to do the same. There is a big national movement on foot for improved lighting, meaning lighting which is safe for the eyes, and different from the commonplace. No one can be of greater assistance to this cause than the architect. Think this over, and *act* the first time the question of lighting comes up.

F. LAURENT GODINEZ,
Contributing Editor on Lighting.



WILLIAM PENN HOTEL, PITTSBURGH, PA.

Builders: George A. Fuller Co.
 Front Brick: Kittanning Brick & Fire Clay Co.
 Roofing, Metal Doors and Trim: Perritt Iron & Roofing Co.
 Brass Tubing: The Baltimore Tube Co.
 Electrical Contractors: J. Livingston & Co.
 Cement Walks: Harrison & Meyer.
 Painting and Wood Finishing: The Barker Painting Co.
 Expanded Metal Engineering Co., makers of Metal Lath.
 Tahara Automatic Silver Burnishing Machine.
 Shone Sewage Ejector Plant: Shone Co.
 Bentwood Chairs: Jacob & Josef Kohn.

Janssen & Abbott, Architects.
 Clyde R. Place, Consulting Engineer.

HOTEL BUILDING

The William Penn Hotel is a twenty-story structure with three basements, located on Oliver Avenue, Pittsburgh. Above the third floor the facade is penetrated by two deep courts which divide the building into three large bays. There are 900 bedrooms, each with its connecting bath with either shower or tub equipment.

In Washington, the new Capitol Park Hotel is a very different structure, being only seven stories high with two basements and with a small number of rooms. The appointments of the building are of the best and its location on North Capitol Street is most advantageous. The building is so planned as to be capable of easy and economic extension. The exterior is in limestone and rough texture grey brick.

The Hotel Muehlebach, in Kansas City, now being completed, is a large building, a twelve-story structure, covering considerable ground area. It is located at Twelfth

Street and Baltimore Avenue, and is planned to take care of local social functions as well as transient guests. Its equipment for restaurant purposes is excellent, including a large ball and banquet room which will seat 550 persons.

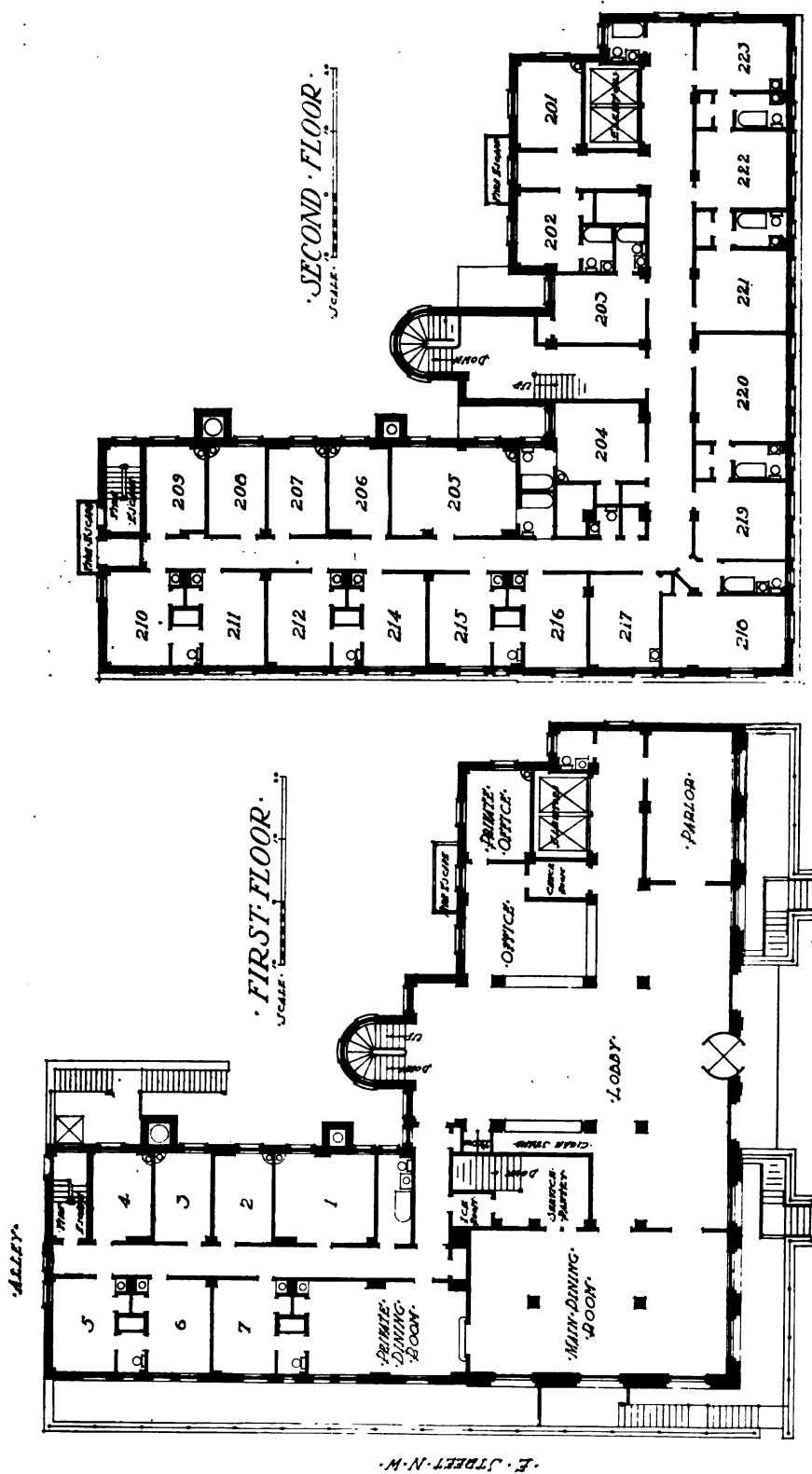
In Chicago, the opening of the new Hotel Morrison adds another large house to the many hotels of that city. The building is in two sections, the first with a frontage of 68 feet on Madison Street with a depth of 190 feet; the second is on the corner of Madison and Clark with an area approximately 90 feet square. The building is twenty-two stories high, nineteen stories being used for the 1,600 bedrooms. The first two floors are designed especially for the use of commercial travellers, with combination bedrooms and show-rooms, which will be described later. The main story contains the public lobby of two stories height, with other public rooms and dining rooms.



CAPITOL PARK HOTEL, WASHINGTON, D. C.

A. B. See Electric Elevators.
Roofing: Barrett Specification Materials.
Diamond Elevator Door Hangers.

A. B. Mullett & Co., Architects.



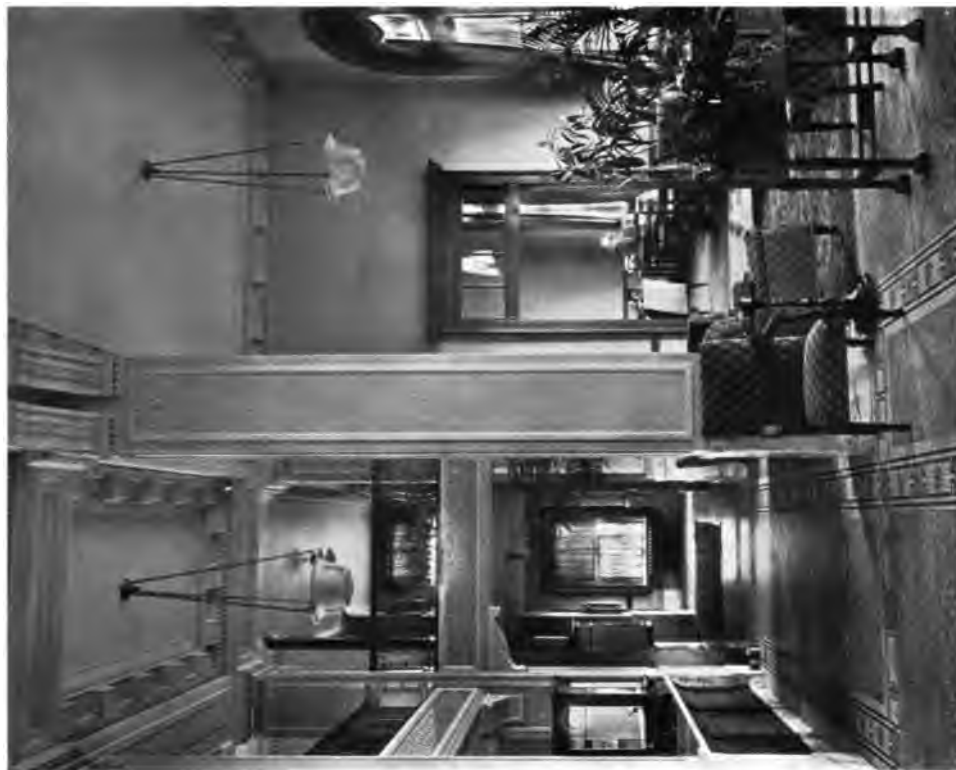
PLANS OF CAPITOL PARK HOTEL.

A. B. Mullett & Co., Architects.



CAPITOL PARK HOTEL. LOBBY AND GRILL.

Watchman's Clocks: Pettes & Randall Co.
Lamps: A. H. Notman & Co.
Stanley Butts.

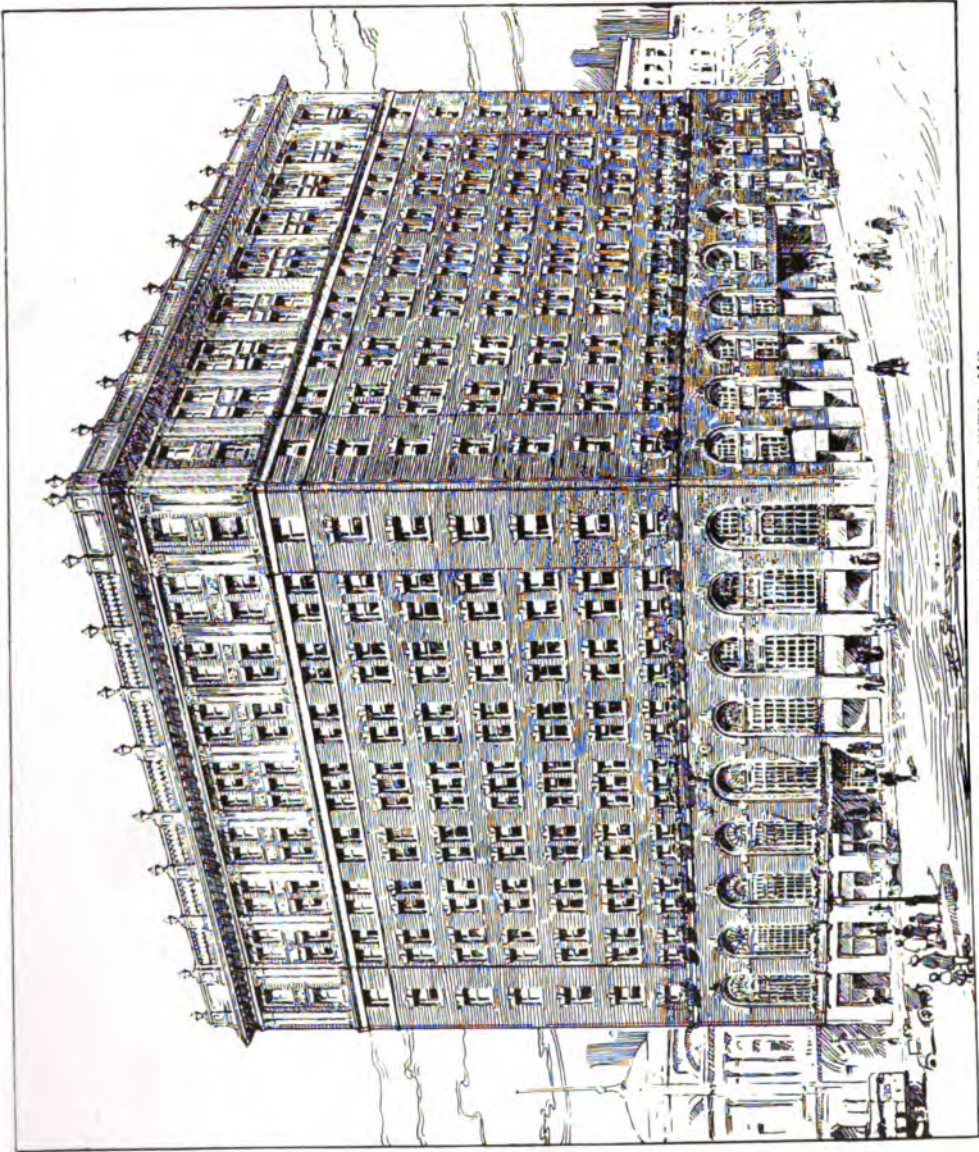


CAPITOL PARK HOTEL. LOBBY AND MAIN DINING ROOM.

A. B. Mullett & Co., Architects.



Cutler Mail Chutes.
Silver Service; Reed & Barton.
Keystone used on Walls.



HOTEL MUEHLEBACH, KANSAS CITY, MO.

Holabird & Roche, Architects.

China and Glassware: Burley & Co.
Silver Service: Reed & Barton.
Interior Woodwork: Matthew Bros. Mfg. Co.
Lamps: George C. Lynch Co.
Tahara Automatic Silver Burnishing Machine.

Refrigerators: The Brecht Co.
Fireproof Windows: J. F. Ruth.
Stanley Built Chutes.
Cutler Mail Chutes.
Front Brick: Hydraulic Press Brick Co.



HOTEL TRAYMORE, ATLANTIC CITY, N. J.

General Contractors: Cramp & Co.
 Kitchen Equipment: L. Barth & Son.
 Compo Base: The Marbleoid Co.
 Furnishings and Furniture: Gimbel Bros.
 Bentwood Chairs: Jacob & Josef Kohn.
 Tables: Reischmann Co.

Price & McLanahan, Architects.



HOTEL ALLERTON, NEW YORK CITY.

Terra Cotta: South Amboy Terra Cotta Co.
 Electrical Contractor: Dennis G. Brussell.
 Furniture and Furnishings: John Wanamaker, N. Y.
 Expanded Metal Engineering Co., makers of Metal Lath.
 Front Brick: Hydraulic Press Brick Co.

Paul C. Hunter, Architect.

The Boston Oyster House occupies the first basement. The floor above the lobby is the banquet room floor.

In Cincinnati the Hotel Gibson, which replaces the old hotel of that name, is a twelve-story structure with 500 bed-rooms, each with its accompanying bath. It is provided with large ball-rooms and other rooms of entertainment. The Fountain Grillroom is a large cafe seating 450 people and another dining-room called the Dutch Room, seats 125 persons. The third floor, known as the convention floor, contains the ballroom, located at the center of the building. This room is surrounded by folding doors so that four-fifths of the entire story of the hotel can be thrown into one large room. The seating capacity of the ballroom itself is 500 and of the entire floor 1,200. This large space furnishes excellent accommodation for banquets and other large entertainments.

The Ritz Carlton, in Philadelphia, has added a large new wing, about doubling the capacity of the house. There are now 200 bedrooms with accompanying baths. Into the new wing the ballroom has been extended, and there is additional accommodation in the way of dining-

rooms and banquet-rooms. The architectural treatment of the exterior is the same as the original building, and the interior appointments have been carried out in the Adam style, similar to the original portion which was built three years ago.

The Hotel Brunswick, in Lancaster, is an eight-story building with 150 bedrooms and 100 baths. It is a well appointed hotel for a city of 55,000 inhabitants. An interesting detail in its construction is that a hot water heating system is used instead of the usual equipment. It is a large and high building to be so heated.

The Fontenelle, in Omaha, Neb., a fifteen-story structure containing 330 rooms with bath, has a very interesting arrangement of its two lower stories, brought about by the sloping site. It has been so planned as to provide grill, cafe, billiard-room, barber shop, toilets, etc., on one level, with good outside windows and natural lighting, and upon the level above also with a direct street entrance are the main lobby, main dining-room and other public rooms.

Structurally the modern hotel embodies the best ideas as to fireproof construction and fire-preventive equipment. The traveling public has created this demand and



MORRISON HOTEL. CAFE.

Roekwood Panels and Wall Tiles: Roekwood Pottery Co.
Painting and Wood Finishing: W. P. Nelson Co.



MORRISON HOTEL, CHICAGO, ILL. LOBBY.
 Heating and Ventilating: Mehring & Hanson Co.
 Shampoo Fixtures: Hoffmann & Billings Mfg. Co.
 Bentwood Chairs: Thonet Brothers.
 Otis Elevators. Cutler Mail Chutes.

Marshall & Fox, Architects.



**MORRISON HOTEL. A NEW TYPE OF SAMPLE ROOM, EQUIPPED WITH MURPHY
IN-A-DOR BEDS AND DIVIDED BY FOLDING PARTITIONS.**

**Bommer Spring Butt Hinges.
Shone Sewage Ejector Plant: Shone Co.**

it has been satisfied in the modern hotel in many localities, to a large extent irrespective of local building requirements. This has been brought about because the hotel owner realizes that fireproof construction and safety are an advertising asset and that people will patronize a modern hotel because they believe it well and safely built.

In the construction of the group of new hotels here presented it is noticeable that certain contractors were engaged in work on a number of them, and that certain specialties of hotel equipment are frequently used. The George A. Fuller Company are builders of several, notably the William Penn Hotel, now in course of construction, in Pittsburgh. Clyde R. Place is the consulting engineer on this hotel and also on the Pantlind Hotel. On the latter Balcom & Darrow are the structural engineers. Cramp & Co. are building the Traymore. J. Livingston & Com-

pany hold several contracts for electrical work. Harrison & Meyer have worked all over the country, laying cement floors and cement sidewalks. Barrett specification roofing materials are used on a number of the buildings, and composition flooring and bases, as well as stairs and stair-treads have been put in many of the buildings by The Marbleoid Company. The Expanded Metal Engineering Company supplied the metal lath used in several hotels and J. F. Ruth supplied the metal windows for the Muehlebach, in which Matthew Bros. Manufacturing Co. had the interior woodwork contract. The Federal Terra Cotta Co., the New York Architectural Terra Cotta Co. and the South Amboy Terra Cotta Co. had contracts for exterior terra cotta. Front brick, the principal materials for the exteriors of the hotels illustrated, was made by both the Hydraulic Press Brick Co. and the Kittanning Brick & Fire Clay Co. A



HOTEL BLACK HAWK, DAVENPORT, IA.

Front Brick: Hydraulic Press Brick Co.
Painting, Decorating, Furnishings: W. P. Nelson Co.
Tahara Automatic Silver Burnishing Machine.
Roofing: Barrett Specification Materials.
Cutler Mail Chutes. Stanley Butts.
Bentwood Chairs: Thonet Brothers.

Temple & Burrows, Architects.
Neiler, Rich & Co., Engineers for Mechanical Equipment.



Courtesy of The National Architect.

ENLARGED RITZ-CARLTON, PHILADELPHIA, PA.

Builders: George A. Fuller Co.

Terra Cotta: New York Architectural Terra Cotta Co.

Otis Elevators.

Cutler Mail Chutes.

Polished Brass Elevator Doors: The Wells Architectural Iron Works.

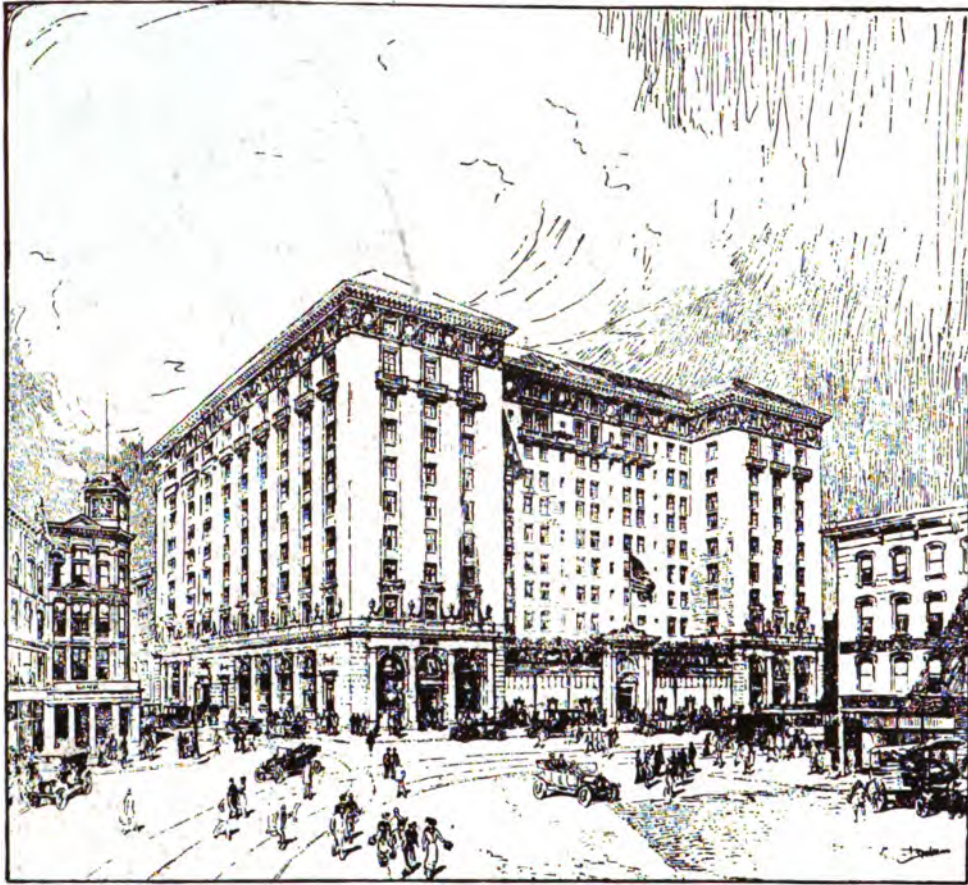
Horace Trumbauer, Architect.



Courtesy of The National Architect.

RITZ-CARLTON INTERIORS.

Interior Marble: Batterson & Eisele.
 Marble Mantels and Fireplaces: Wm. H. Jackson Co.
 G. D. A. Limoges China, made by Haviland & Abbot Co.
 China and Glassware furnished by L. Barth & Son.
 Bentwood Chairs: Thonet Brothers. Tahara Automatic Silver Burnishing Machine.
 Tables: Reischmann Co. Chicago Hinges.



PANTLIND HOTEL, GRAND RAPIDS, MICH.

Electrical Contractors: J. Livingston & Co.
 Tahara Automatic Silver Burnishing Machine.
 Otis Elevators. Cutler Mail Chutes.
 Jewett Refrigerators.
 Carpets manufactured by Hardwick & Magee Co.

Warren & Wetmore, Architects.
 Balcom & Darrow, Structural Engineers.
 Clyde R. Place, Consulting Engineer.

B. See electric elevators and Otis elevators are used most frequently. Of the contracts for painting and wood-finishing, the Barker Painting Company and W. P. Nelson Company each held several, while Schleich and Smeraldi have done decorations. The use of flat finishes on walls is extensive, and we note that Keystone has been employed. The firm of John Wanamaker, New York, supplied furniture and furnishings. Carpets in a number of cases were manufactured by Hardwick & Magee Company, and draperies by the Orinoka Mills. Table lamps were supplied by A. H. Notman & Company, and George C. Lynch Company. Thonet Brothers supplied bentwood chairs and restaurant tables in many hotels.

In the line of equipment Cutler mail

chutes are used in almost every building, and the hotel bulletin board of the type manufactured by the U. S. Changeable Sign Company is frequently employed. The Pettes & Randall Company have equipped several hotels with their watchman's clocks and the Hoffman & Billings Manufacturing Company supplied their special bathroom equipments with Niedecken mixers.

China and glassware, as well as kitchen equipments, were put in by L. Barth & Son, and by Burley & Company, and G. D. A. Limoges china made by Haviland & Abbott Company is in use. Reed & Barton frequently supplied the silver services. In this connection the larger proportion of the hotels have Tahara automatic silver burnishing machines, a useful and



PANTLIND HOTEL IN PART COMPLETED.

Builders: George A. Fuller Co.
 Decorations: Schleich & Smeraldi.
 Painting: W. P. Nelson Co.
 Expanded Metal Engineering Co., makers of Metal Lath.

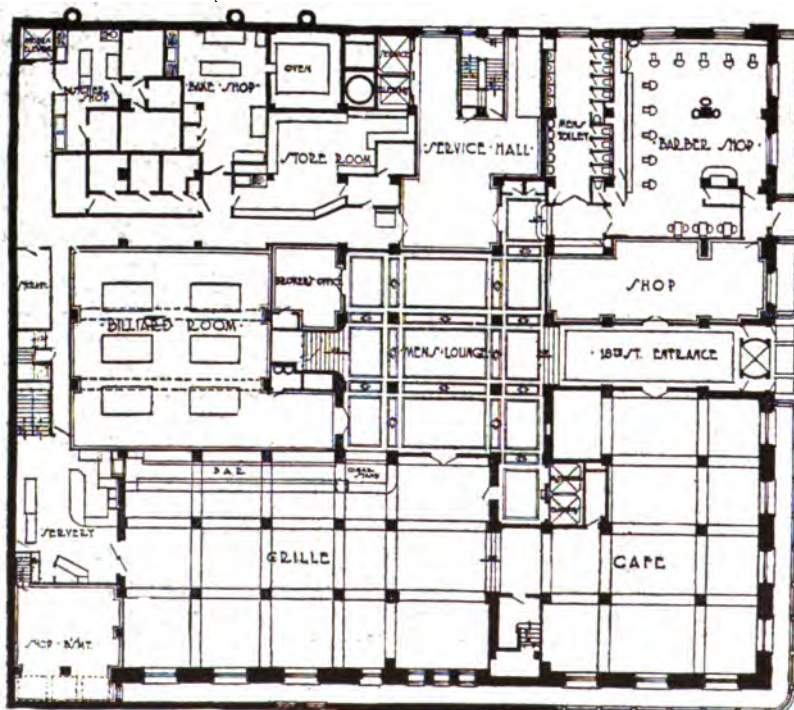
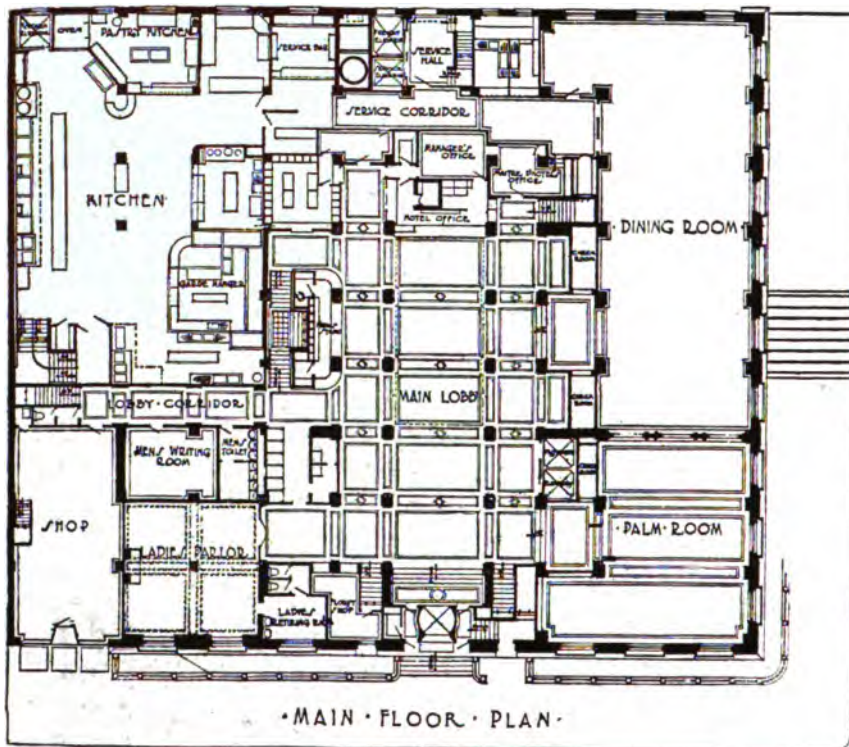
Terra Cotta: Federal Terra Cotta Co.
 Compo Floors and Base: The Marbleoid Co.
 Cement Floors & Walks: Harrison & Meyer.
 Front Brick made by Yingling-Martin Brick Co.,
 and supplied by Thomas Bros. Co., Ltd.

efficient appliance. The Brecht Company and also the Jewett Refrigerator Company supplied refrigerators.

The use of wall beds called Murphy In-a-Dor beds, made by the Murphy Wall Bed Company, is an innovation which is greatly appreciated by the traveling salesmen, for it enables them to combine bedroom and sample room in one. In such hotels as the Morrison a step further has been taken. Here a large area that may be used as a large sample-room is divided off by folding partitions so that the space may be reduced to smaller units as desired, and by means of In-a-Dor beds transformed from sample-room to sleeping-rooms.

The cafe of the Morrison is decorated with ornamental panels and wall tiling made by the Rookwood Pottery Co.

The Mehring & Hanson Company were the heating and ventilating contractors on the Morrison, and Shone sewage ejector plants were used in several of the buildings. The engines in the power plant of the Gibson House were made by the Hoooven, Owens, Rentschler Company. Frantz Premier vacuum cleaners are used in the Brunswick; and in the William Penn the Baltimore Tube Company is supplying 250,000 pounds of brass tubing. Hardware specialties, such as Stanley butts, Bommer and Chicago Spring butts, are used in many buildings.



FONTENELLE HOTEL. PLANS OF GROUND AND MAIN STORIES.



FONTENELLE HOTEL, OMAHA, NEB.

Front Brick: Hydraulic Press Brick Co.

Otis Elevators.

Jewett Refrigerators.

Carpets manufactured by Hardwick & Magee Co.

Cutler Mail Chutes.

Thomas R. Kimball, Architect.

Neiler, Rich & Co., Engineers for Mechanical Equipment.

Interior Decorations: Holslag & Co.



HOTEL BRUNSWICK, LANCASTER, PA.

Vacuum Cleaners: The Frantz Premier Co.
Roofing: Barrett Specification Materials.
Cutler Mail Chutes.
Bent Wood Chairs: Jacob & Josef Kohn.

C. Emlen Urban, Architect.



HOTEL BRUNSWICK. INTERIORS.

Directory Boards: U. S. Changeable Sign Co.
 Watchman's Clocks: Pettes & Randall Co.
 Tahara Automatic Silver Burnishing Machine.
 Vacuum Cleaners: The Frantz Premier Co.

C. Emlen Urban, Architect.



GIBSON HOUSE, CINCINNATI, OHIO.

Engines: The Hooven, Owens, Rentschler Co.
Shone Sewage Ejector Plant: Shone Co.
Cutler Mail Chutes.
Ball Room Chairs: Jacob & Josef Kohn.

Gustav W. Drach, Architect.



GIBSON HOUSE. INTERIORS.

Young & Carl, Photographers.

Directory Boards: U. S. Changeable Sign Co.
 Base and Borders: The Marbleoid Co.
 Showers with Niedeecken Mixers: Hoffmann & Billings Mfg. Co.
 Furniture: John Wanamaker.

HOTELS AND FIRES

By EDWARD ROCHIE HARDY

The hotel is an ancient institution. In one form or another it must have existed almost from the very beginning of civilization, and much of romance has gathered around some hotels, or better let us call them inns. One wonders whether the modern hotel will ever succeed in gathering to itself that flavor of romance which seems to have gathered around some of the ancient hostelrys. The landlord in history has not been wholly a mere individual in the community life; in most cases, if adapted to his position, he has been an institution. Some of us would give a great deal of the modern convenience and splendor of our hotels if we could hark back and have instead some of the companionship fostered by many an ancient inn. The hotel from the point of view that we have been discussing is far too entrancing a topic, and we had best turn from it at once lest we wholly forget that such a prosaic thing as fire prevention is the real thing that we have to consider. There was not much consideration paid to what we recognize as fire prevention in the type of hotel which we have been referring to. There was no reason why there should be since in those days not much attention was paid to it in any class of property.

The hotel falls into the habitation class. Merchandizing or manufacturing is not at all its function. Its specific purpose is to receive a guest and care for him, to (in the old phraseology) welcome the coming and speed the parting. In the modern hotel the question of fire prevention is not dismissed so lightly, but is one which is receiving the most careful consideration in every structure that is now erected. Hotels have a record almost as bad as that of theatres for the fires which have destroyed them and in the loss of life which they have occasioned. Within a day or two the newspapers have chronicled the fact that the Speaker of the House and his family saved their lives by a hurried escape from a burning hotel. It is a rare week in our history that some hotel, large or small, does not burn. The early hotels naturally were not of a much better type of construction than the other buildings in the community—that is, they were frame structures. As they were important business properties, in due time (among the earliest perhaps) they attained to the status of a building of ordinary construction, and now within a decade that type is passing away. Indeed it has almost departed from our large cities and only the fireproof is being erected.

Now perhaps this point has been emphasized, but it will bear re-emphasis that a building which is devoted to the harboring of human beings ought in its management to be exceedingly thoughtful for their care. This care should extend not merely to the furnishing of the substantial things of life amid pleasant surroundings, but to such a guarding against danger from fire that the guest will have no uneasiness.

There has been a growth in the attitude of the public in regard to the safety of the hotels, setting danger limits at which they stop. There is not that indifference to the matter which perhaps was prevalent fifteen, if not ten years ago. A friend has stated that in a certain Western city where the hotels do not rank very high he never permits himself to take a room above the second floor. It is, as he expresses it, simply too dangerous. He is merely typical and not a rarity in his attitude on this question. The hotels, too, are not unmindful of the importance of this feature. Their advertising of the fireproofness of their construction, and even the advertising of other details tending to the saving of life or the prevention of fire, show that they appreciate the attitude of the traveler of to-day, and that positive efforts are to be made to cater to him in that respect. When one reflects that the modern hotel may be run fifteen or twenty stories in the air a peculiar duty is incumbent upon the management to forestall by all reasonable and possible means the outbreak of fire within the property. It is just as important in those of a lower height since life should not be trifled with, but it approaches the criminal if neglected in one of any excessive height.

The advance in prevention measures is illustrated by the fact that at least one hotel on the "Continent," and perhaps others we do not know, has commenced to put in sprinklers, and the statement has been made to me within ten days that in all probability every hotel will within ten years be sprinklered. Even if this does not extend to the rooms, certainly everything below grade or every part constituting the workshop of the property, together with the public halls, will have this protection. After all, why shouldn't they. If we invest funds in such equipments to care for mere merchandise, why should we not invest such funds in caring for human lives. The value of the one weighed against the other bears no comparison. A sprinklered hotel, we may rest assured, will soon be demanded, and the first

one which supplies them is going to secure a great deal of the patronage that now goes to other hotels.

We still have with us, and shall probably until they burn down or until the increase in land values makes it profitable to pull them down, the hotel of ordinary construction. Perhaps a more proper phrase would be sub-ordinary construction, for they certainly, when shown up by a fire, reveal a total absence of good building principles. The Essex Hotel, recently destroyed in Salem, Mass., was an ancient one, and probably most everyone who has visited Salem must have stopped there. This fire lent additional notoriety to Salem in a respect in which perhaps it did not need it. The fire of last year which destroyed such a large section of the city has made Salem stand out as one of the burnt spots of the continent, and unusual notice is given to a fire which occurs there. But in the case of the hotel it had stood for so much in the community life and had entertained the passing traveler for so many years that probably its burning would have attracted attention even if the big fire had not happened. Example after example could be multiplied of the insecurity to life which is afforded by these properties throughout our country. One can only hope that their removal, by fire if it comes in that way, will not take place when the house is filled with guests, but rather hope that more peaceable means may be all that is necessary. In other words, that it may be torn down and not burn down.

One scarcely thinks of the enormous business activity that is conducted within the four walls, and many stories above and below ground, of a modern hotel. The mere business of feeding the guests is alone sufficient to call for a kitchen and bakery, which comprise a good-sized manufacturing plant with all its attendant hazards. When to this form of activity there is added the fact of hundreds, perhaps even more than a thousand sometimes, of different persons occupying individual rooms, each deeply engrossed with his own affairs, and with neither time nor thought to give to the other, one can really appreciate the specific individual hazards that are brought into such a property.

Now, large as this plant is it is gratifying to know that in the best establishments we are learning to handle it with a degree of care that is commensurate with its importance. Fires have occurred in individual rooms, to illustrate our point, which have been confined directly to the room—in other words, have not escaped beyond its four walls or disturbed any other part of the house. When we state that this has occurred not once but perhaps three or four times in certain hotels, one can appreciate the strength and solidity of the construction that permits this to be done. In the ordinary hotel

the starting of the fire would perhaps mean total destruction; in most cases the loss of one if not more lives. To this point at least we have grown: our ability to control a fire originating in the small room is well nigh perfect so far as the enclosure is concerned. With the door closed it may burn itself out, destroying naturally everything in the room, but that is of small moment compared with its segregation.

The hazards, so to speak, fall into a few defined groups:

- (a) The kitchen.
- (b) The laundry.
- (c) The guests.
- (d) The character of the management.

So far as the kitchen and laundry are concerned, they introduce the heat hazard which is well known, but which now can be very safely guarded against. Many of the fires which have occurred in our hotels have originated in the kitchen, quite frequently in connection with the ignition of a pan of grease or fat, or a substance of that nature. In many cases the constant use of the apparatus has so lined the walls of the chimney that in time it ignites, and unless it be solidly built it might set the property on fire, but this we have learned to guard against by the proper construction and by the proper cleaning of these vent-flues. The laundry—the modern one—with its machinery and high pressure methods for turning out work, introduces, of course, the hazards always inseparable from a plant that is driven at top speed and which uses heat at a high temperature, but the old frame dry-room has passed away and the modern metal one has reduced the hazard here to a minimum, while the modern ironing arrangements have also reduced the danger which comes from the old coal stove and the individual iron.

We spoke of the guests. They naturally, being on pleasure or business bent, are quite absorbed, and carelessness in regard to the use of matches or lights is far more apt to creep in than it would in their own homes. This lack of responsibility, as it may be termed, constitutes the danger which the guest brings. The electric light has quite well reduced the danger that came from the open flame of the gas-jet, and a growing sense of responsibility is even making people careful as to where they place a match after they have lit their cigar, or even where they place the cigar itself.

Finally, the management we stated. The tone of any property, whatever it be, will reflect in its smallest units the attitude of those in command. If the employees are indifferent to the subject of fire prevention it perhaps only reflects the attitude of the management, and the management that has fine ideas about the care of its guests will inevitably pass this on to all those connected with the house. Things

in their final analysis always come back to the person at the head; you cannot have good soldiers unless you have good generals; you cannot have a fine regard for fire prevention in a hotel unless there is a fine regard for it on the part of the management.

No special problems confront the hotel in equipment. The standpipe is necessary. This

and other devices we have explained. Of course pails and extinguishers constitute here as in all places the first fire-fighting unit. And in conclusion, we shall come very soon, I believe in a decade, to the hotel that is sprinklered and advertises that fact in its announcements. Let us hope the day is at hand.



MORRISON HOTEL, CHICAGO, ILL. TYPICAL STORY PLAN.

Marshall & Fox, Architects.



—COMPARE—

**The work of the
Illuminating Engineer**

vs.

**The work of the
Lighting Specialist**

CAUSE OR EFFECT

ONE photograph! 6-100 watt lamps in each window

Prism shades (on left) vs. Home Made shades of white blotting paper (right)

Display Window Lighting

By F. LAURENT GODINEZ

Is filled with remarkable examples of a pioneer specialist's work. It is absolutely original, and contains no "theory" or "dry rot." The blunt facts about commercialized lighting are presented forcibly and in a manner inimitable. The book shows that White Ways are robbing American cities of personality.

TABLE OF CONTENTS

| | |
|--------------------------------|--------------------------------|
| Preface. | VII Lighting With Electricity. |
| I The City at Night. | VIII Lighting of Signs. |
| II Advertising and Attraction. | IX Color Attraction. |
| III Utilization of Light. | X Action in Display Lighting. |
| IV Application of Light. | XI Before and After. |
| V Cause and Effect. | XII Modern Display Lighting. |
| VI Lighting With Gas. | |

266 Pages 6 x 9, 115 Illustrations, 3 Color Plates, Net \$2.00

The Wm. T. Comstock Co., 23 Warren Street, New York

CHAIRS IN THE HOTEL STATLER, DETROIT.

Furnishings are as important in a finished interior as the decorations to carry out style or period treatment. While "furnishings" is an inclusive term, the most important feature is the furniture, for that is necessarily more intimate, and upon it the greatest care in design is bestowed. The chairs of the Hotel Statler exhibit a high state of perfection in design, and to suit the treatment of various rooms different patterns were developed to have this portion of the furniture thoroughly in keeping.

The predominating style of decoration and

Fig. 2, which are the chairs used in the better rooms of the hotel. These chairs are constructed entirely of American walnut and finished specially in a beautiful light shade vastly different from the old dark walnut finish in vogue many years ago. The seats of these chairs and the back and arms of the armchair are upholstered in a specially made polka dot mohair frieze of a tan shade. The back of the side chair is made of fine open cane webbing. These chairs were designed specially for this hotel and are of proper proportions to give the highest degree of comfort. Not only in the chairs but in all other bedroom fittings the ease and comfort of the guests have been considered. The desk tables have a special



Fig. 1.



Fig. 2.



Fig. 3.

furnishings is that of the Adam period, which is characterized by great delicacy and refinement in ornament and color. The bedroom chairs naturally follow this period style which is shown by illustrations of chairs, Fig. 1 and

slide and drawer which open and display completely equipped writing desks. This same idea is carried out in the chiffoniers in the smaller rooms.

In these rooms the chairs shown in Fig. 3 are used. These chairs are constructed of the best grade of birch and have a seat made of fine open cane webbing. While not as an elaborate chair as used in the larger rooms, still they are made of the best material and according to high-grade standards.

The grill room follows the Elizabethian period, and the chair in Fig. 4, which is used in this room, naturally follows the lines of that period. This is a solid oak chair with an over-stuffed seat covered with a specially made frieze plush of old salmon-red color. These chairs have a fine cane back with a heavy hand carving on the top piece and have turned

(Continued on page 20.)

GEORGE DOAN RUSSELL COUNSELOR AT LAW

Tribune Building New York

TELEPHONE BEEKMAN 4718

SPECIALTY:

Legal matters pertaining to Building

Engaged seven years as Architect and Builder; seventeen years in the practice of law.

April, 1915

ARCHITECTURE AND BUILDING

Store Fronts

U. S. Post Office, New Orleans, La.

Paying The Bill

By Theodore Starrett

Lighting Efficiency

By F. Laurent Godinez

New Business Buildings in New York

A Colonial Cottage

Published by
The William T. Comstock Company
New York

20 c. a copy.

\$2.00 a year.

GENERAL LIBRARY
MAY 17 1915
UNIV. OF MICH.



"Globe" Ventilators

combine highest efficiency with strength and durability.

Made in heavy galvanized iron, copper and Toncan metal and with glass tops when desired.

Send for Model Demonstrating Operation

Globe Ventilator Co.
Troy, New York



STUCCO Made With



IS Waterproof & NON-CRACKING



Send a Postal for Book 91

The Standard Paint Co. New York
Boston
Chicago

Capital, \$5,000,000.00



"F-S" Products are leaders everywhere

"F-S" Mission Finishes rank high because they are easily applied without danger of setting or lapping while brushing out. They come in permanent colors of a wide variety of shades, and have no unpleasant odor. Chances for general satisfaction are always great when you specify a material of established repute.

FELTON, SIBLEY & CO., Inc.

Manufacturers of Colors, Paints and Varnishes since 1863

136-140 North Fourth St.

Philadelphia

ARCHITECTURE AND BUILDING

A Magazine Devoted to Contemporary Architectural Construction

WILLIAM P. COMSTOCK
Managing Editor

THEODORE STARRETT
Contributing Editor

Volume XLVII

APRIL, 1915

Number 4

As it is my privilege to talk here about anything at all, so long as it relates to architecture and building, or either one of them, I choose to say a few words more about that tiresome subject trade unionism.

My undertaking to demonstrate that architects and builders are being forced by economic pressure to fight each other for the crumbs that fall from the mechanic's table may or may not be regarded as having been forgotten or abandoned by any one who may happen to be reading these words. Some there may be who will still see it clearly in the lines or between. Others may read and not see. Maybe I could say to them, "None so blind as those that will not see." Maybe it is my own fault that I do not make myself clear.

But, as I said, I choose to say a few more words here and now on the subject of labor, meaning labor in the building business, labor as it unites in unions and employers' associations to interfere with the rights of free people to conduct their business as they choose so long as they do so lawfully.

So many interesting things have happened lately that I really think the subject is not tiresome.

If people, especially the unionists themselves, really understood this question they would open their eyes. The truth would astound them. It would result in a possible movement to establish a new system of building with a lower scale of wages and its attendant phenomenon a relaxation of the economic pressure with more work, steadier work and happier days for all who live by building.

A story goes that there used to be a "hotel" on the trail from Kansas City to Denver long before the days of the railroads, which was kept by a ruffianly boniface who knew *his* business. It was the only house in town. It had one room, bar, dining room, kitchen, with straw on the floor at the sides where the guests slept. There was a dug-out stable attached.

A lonely traveler on horseback drew up at this place one cold winter evening and asked for shelter for the night. He was accom-

modated. His horse got better fare than he did though that wasn't saying very much. Next morning, having breakfasted, the traveler asked for the score. He was dumbfounded to learn that the bill was seventy-nine dollars and fifty cents. The landlord had the drop on him as he eyed his victim who saw that it was either pay or be filled up with lead.

Nevertheless he made bold to expostulate with the good boniface who stood behind the dry goods box which served for a bar, leering at him and covering him with his cocked and loaded revolver.

"How do you figure it out, landlord?" said he.

"Wall, stranger," replied the landlord as he lightly toyed with his big revolver, "it cost me last year one hundred and fifty-nine dollars to run this yere shack and you're the first guest I've had in six months. I reckon if I get one more before the end of the year, and charge him the same as you I'll only play even at that, not a cent of profit on the year's business."

The traveler saw the point of the argument and after paying the bill went on his way rejoicing at the thought that if he had come along six months later he might have had to pay for running the "hotel" a whole year instead of six months.

Those happy days are gone. The railroad ruined the business of that gentle landlord but he spent the last days of his life cursing the rascally fools who spoilt his game.

The men who are successful enough to have the money to spend on building in these days can be depended upon to know just how to go about finding the soft spots—the weak spots—in the body politic of building. They know or can easily find out how to farm the job to a general contractor at a price which will surely play havoc with somebody whether the general (save the name!) or his subs, they don't care which. And all the time the mechanics get their pound of flesh! Yes, and they are not satisfied but like the pioneer landlord they would charge as much as they need to make up for lost time.

What fools these builders be! Out in Chicago there is a building lockout, not a foolish thing in itself, however, that is, the lockout. More money needed by unions because there is so little work!

The coffin-makers are wiser; they have decided to wait till some more people die; doesn't it only go to prove what I say?

Theodore Starrett.

POST OFFICE, NEW ORLEANS, LA.

JAMES GAMBLE ROGERS, of HALE & ROGERS, Architects

The New Orleans Post Office building occupies a large rectangular plot bounded by four streets. The principal facade faces the park and is bounded by Camp street. The two sides faces upon Lafayette and Capdevielle streets. The other front on Magazine street is finished similar to the front on Camp street.

The Post Office occupies the main floor with the public corridor extending along the Camp and Lafayette street sides with the principal entrance in the corner pavilion at the joining of these two streets. The Post Master's office is located at the Camp and Capdevielle street corner at the end of the corridor, and the Parcel Post and Postal Savings Bank occupies the Lafayette and Magazine street corner. The remainder of the area of the first floor is used for the postal service departments with outside light on two sides and from the two large central

light courts. Upon the Capdevielle street side, there is a mail wagon platform which is within the line of the first story, the upper stories extending over it.

The basement is occupied by the mechanical plant. The building has its own power plant for generating electric current, lighting and power purposes, as well as heating and ventilating. This plant is fully adequate for the needs of the building and is thoroughly equipped with modern machinery.

There is a mezzanine in part above the first story which is used for clerks' rooms, employees' locker rooms, etc. There are four passenger elevators approached from the Lafayette street corridor. These are placed near each end of the corridor in groups of two and have accompanying stairways. There is a freight elevator at the opposite side of the building which has an opening upon the mail delivery



POST OFFICE, NEW ORLEANS.

Built of Cherokee Marble from Quarries of The Georgia Marble Co.
Exterior Marble Contractors: The Blue Ridge Marble Co.



POST OFFICE AT NEW ORLEANS, LA.

General Contractors: Wells Brothers Co.
 Built of Cherokee Marble from Quarries of The Georgia Marble Co.
 Exterior Marble Contractors: The Blue Ridge Marble Co.
 Mechanical Equipment, Ventilating and Plumbing: Charles E. Monday & Co.
 Evans' "Crescent" Expansion Bolts.

Jas. Gamble Rogers, of Hale & Rogers, Architects.



PUBLIC CORRIDOR. POST OFFICE AT NEW ORLEANS.
Contractors for Interior: Norman Ker Company



PUBLIC CORRIDOR. POST OFFICE AT NEW ORLEANS.

Contractors for Interior: Norman Ker Company
Otis Elevators.
Cutler Mail Chute.
Chicago Spring Butts.



COURT ROOMS. POST OFFICE AT NEW ORLEANS.

Contractors for Interior: Norman Ker Company
Woodwork: George W. Smith & Co., Inc.

Jas. Gamble Rogers, of Hale & Rogers, Architects.



POST OFFICE AT NEW ORLEANS.

Grant Anti-Friction Casement Window Fixtures.

platform. The second floor of the building is in plan a square-lined figure 8, the openings being the two central courts which light the Post Office space below. The corridor runs entirely around the inner side, lighted from the courts. Upon this floor are located the three court rooms which are of two-story height. One is in the wing on the Camp street side, the second on the Magazine street side and the third in the central portion of the building which divides the two courts. Private offices of the clerks, judges and other officials are located along the Lafayette and Capdevielle street fronts. In the story above, there are offices in similar location. The court rooms are lighted by lofty two-story windows and are very well ventilated by using pivoted sash.

The circulation of the plan is excellent and the arrangement is such that there is no confusion of the traffic between those going to the court rooms and those using the Post Office. The courts are well segregated one from another, so that there will be little interference.

The interior finish is of grey Tennessee marble which is used for the corridors, with mahogany trim throughout the first story and Post Master's office. In the second story, the court rooms are trimmed with gum wood which is used for the judges' benches, railings, paneling and other fittings. The movable fur-

niture is of mahogany. The ornamental plastering of the building is very elaborate in detail, particularly in the public corridor of the first story. The ceilings of the court rooms are also carried out in plaster and painted to represent beamed and paneled wood ceilings to match the finish of the gum trim.

The construction of the building is of the usual steel frame type with steel girders and beams carrying the long spans. Both terra cotta arch and reinforced concrete floor systems are employed and terra cotta is used for partitions and wall furring. The exterior is notable for its fine marble work, it being entirely carried out in Cherokee Georgia marble which is of uniform color and soundness. On the two fronts there are colonnades of eight columns each. The columns are of one piece, the blocks from which they were cut measuring 26 feet long by 3 feet 6 inches square.

The general contractors were Wells Brothers Company, and the marble came from the quarries of the Georgia Marble Company, the contract having been handled by the Blue Ridge Marble Company. The contract for the interior work was held by the Norman Ker Company. The woodwork was done by George W. Smith & Company, Inc., and Charles E. Monday & Company were the contractors for the mechanical equipment, ventilating and plumbing.



THE TIMES ANNEX BUILDING.

Buchman & Fox, Architects.

Builders: George A. Fuller Co.
 Terra-Cotta: Federal Terra-Cotta Co.
 Switchboards and Panels: Metropolitan Electric Mfg. Co.
 Loomis-Manning Filters. Star Expansion Bolts.
 American Sash Pulleys. Otis Elevators.
 Unit Flush Valves: Murray & Sorensen.
 Front Brick: Hay-Walker Brick Co.



LIGHTING EFFICIENCY

Efficiency is a word of many meanings when referred to lighting. Primarily there is the efficiency of the source of light—the lamp. The production of artificial light does not compare favorably with other mechanical and electrical processes in efficiency. Indeed, from a pure efficiency viewpoint, the production of electric light is the least praiseworthy achievement of modern science. In the transformation of electrical energy into mechanical energy as typified by the electric motor, or in the transformation of mechanical energy into electrical energy, as exemplified by the dynamo, efficiencies of over 90 per cent. are obtained. In other words the transformation of energy into useful mechanical or electrical power is almost complete. Even in the case of the steam turbine more than 70 per cent. of the initial energy of the steam as it issues from the boilers is recovered in the form of useful work. When the tungsten lamp was placed upon the market it was regarded as a revelation, but nevertheless its luminous efficiency—in the form of light which could be measured and appreciated by the eye—was only one-fifth of one per cent., the remainder of the initial energy, $99 \frac{4}{5}$, being wasted and dissipated in losses not visible. Of course the efficiency of the first tungsten lamp has been improved, but if it could be improved 100 times it would still be ridiculously low compared to the efficiency of the dynamo, motor and turbine. In these days, however, efficiency is measured in dollars and cents. A light which the average public can afford, and which gives sufficient light and for a reasonable period of continuous burning is “efficient” in the economical sense. The first Mazda lamps (tungsten) required 1.25 watts per candle power. Now the average efficiency of the Mazda lamp in all sizes is 1.10 watts per candle power. The very latest types of concentrated filament, gas filled Mazda lamps burn at an efficiency of $\frac{1}{2}$ watt per candle power. Welsbach lamps have kept pace with each successive improvement and development in electric lighting. But this continual increase of *quantity* and decrease of *energy*, is only one kind of efficiency in lighting. If this sort of economic efficiency could be increased to such an extent that a lamp would give ten times the present quantity of light at 1/10th the present cost, the improvement would be valueless to humanity unless it could be used without injuring eyesight; hence it is evident that all the refinement of economics in light making are dependent upon another kind of efficiency—that of the human eye. Visual efficiency requires that the brightness of a lamp within the visual field be restricted to limits of safety. There is no reason why the public should not be advised regarding the “efficiency” of their eyesight, as well as the “efficiency” of their pocket book. A light may be easy on the pocket book but hard on the eyes. This is true of every electric bulb which is sold to-day, but in

selling it the only argument advanced is "economy" and "efficiency." A few words of warning in the advertisements against the use of bare, exposed bulbs would do worlds of good, but no such warning has ever been given. Instead the public is advised to substitute tungsten lamps having an intrinsic brightness over two hundred times in excess of the safety limit, for lamps of the carbon filament type, which while decidedly "uneconomical" and, in that relation "inefficient," are much better for the eyes on account of the soft mellow quality of their light, which is more like the kind of artificial light which through the usage of centuries has shaped and limited the perception and adaptability of our optic organs. Of course every one wants artificial light sufficient for their requirements, and as reasonably as possible. But in the realization of this economy, eyesight should not be sacrificed. The extraordinary economy of these illuminants has invested them with a flexibility and elasticity of adaptation which can be accommodated to any conceivable usage—provided the dangerous brilliancy of the source is properly subdued. And to attain this modification all that is necessary is to direct the attention of the public to the *fact* that the brilliancy of these lamps is excessive and dangerous to the eyes unless greatly modified. In this relation the architect can exert a tremendous influence in bettering conditions which are bordering on a crisis. The pity of the thing is that the majority of the sufferers attribute their condition to entirely innocent causes having nothing to do with the effect—the disturbance of the stomach and nervous system resulting directly from the ocular abuse to which they have unconsciously subjected themselves. As regards the influence of artificial light in revealing architectural expression—quite another kind of "efficiency"—the lighting arrangement which is bad from a psychological standpoint is worse from an esthetic one, for when glare is present it is impossible to see distinctly or to be even comfortable, and the environment is one from which we are glad to escape. When lighting of this sort is installed in school rooms, the practice borders on the criminal order, and should be subject to legislative enactment. The issue involved is not the adoption of the indirect, direct, or semi-indirect systems of lighting, but the protection of the eye from exposed glaring bulbs, a condition which can be corrected by covering each bulb with a simple globe of dense opal glass, increasing the diffusion and visual efficiency well within limits of ocular safety. One of the most glaring examples of dangerous lighting from exposed bulbs is that of Dickinson High School of Jersey City, which in other respects, such as equipment and mode of training, is quite ideal, and has been patterned after by many similar institutions of learning throughout the country. It is unfortunate that the important feature of lighting should be so utterly neglected in such an otherwise representative effort on the architect's part. Referred to lighting, the word "efficiency" covers a multitude of sins.

F. LAURENT GODINEZ,
Contributing Editor on Lighting.



KEENEY THEATRE, BROOKLYN, N. Y.

Terra Cotta: South Amboy Terra Cotta Co.
Barrett Specification Materials.
Chicago Spring Butts.

Wm. E. Lehman, Architect.

The Keeney theatre building covers 22,200 square feet and in the auditorium and one balcony seats 3,000 people. The construction is of steel with brick walls and reinforced concrete floor systems with an entrance facade carried out in ornamental polychrome terra cotta and white Vermont marble, the roof being of green tile. The terra cotta was supplied by the South Amboy Terra Cotta Co.

The auditorium has a span of 90 feet and there is not a post in the house, the balcony being carried by steel trusses and cantilever construction. The stage has

a width of 82 feet and a depth of 40 feet. The decorations are well carried out and in fine materials. The color scheme is in rose, cream and gold with a large proscenium decoration. The entrance lobby is also highly decorated, containing another fine mural by Arthur Brounet over the entrance to the inner foyer. This foyer is spacious and contains a wide marble staircase leading to the balcony lobby. The ornamental plastering which was done by Conroy Bros., Inc., adds greatly to the decorative effects of the interiors.



KEENEY THEATRE, BROOKLYN, N. Y.
 Ornamental and Plain Plastering: Conroy Bros., Inc.
 Brass Railings: Penn Bronze Co.



KEENEY THEATRE, BROOKLYN, N. Y.

Mural Decoration: Arthur Brounct.
Ornamental and Plain Plastering: Conroy Bros., Inc.



Wm. E. Lehman, Architect.



DETAIL OF THE HASCO BUILDING, 36 E. 31ST STREET, NEW YORK.

Painting: The Barker Painting Co.
 Front Brick: Hydraulic Press Brick Co.
 Terra Cotta: South Amboy Terra Cotta Co.
 Stanley Ball Bearing Door Butts.

Walter Haefeli, Architect.

STORE FRONTS

SEYMOUR & SCHONEWALD, Architects,

It frequently happens that an architect is called upon by an owner or a tenant of a piece of commercial property, to consult with him as to the best methods of making the necessary alterations to the existing front in order to meet with the demand of modern business conditions, and the problem which confronts the architect is to get a satisfactory solution with as few structural changes to the existing building as is possible.

If the lease is for a short term, naturally the amount to be invested for the improvement does not warrant such an extensive alteration as would be advisable in the case of a longer lease.

In the majority of cases it is possible to get a satisfactory result by simply installing the modern type of front, using such materials as come within the allotted appropriation. The design in this case

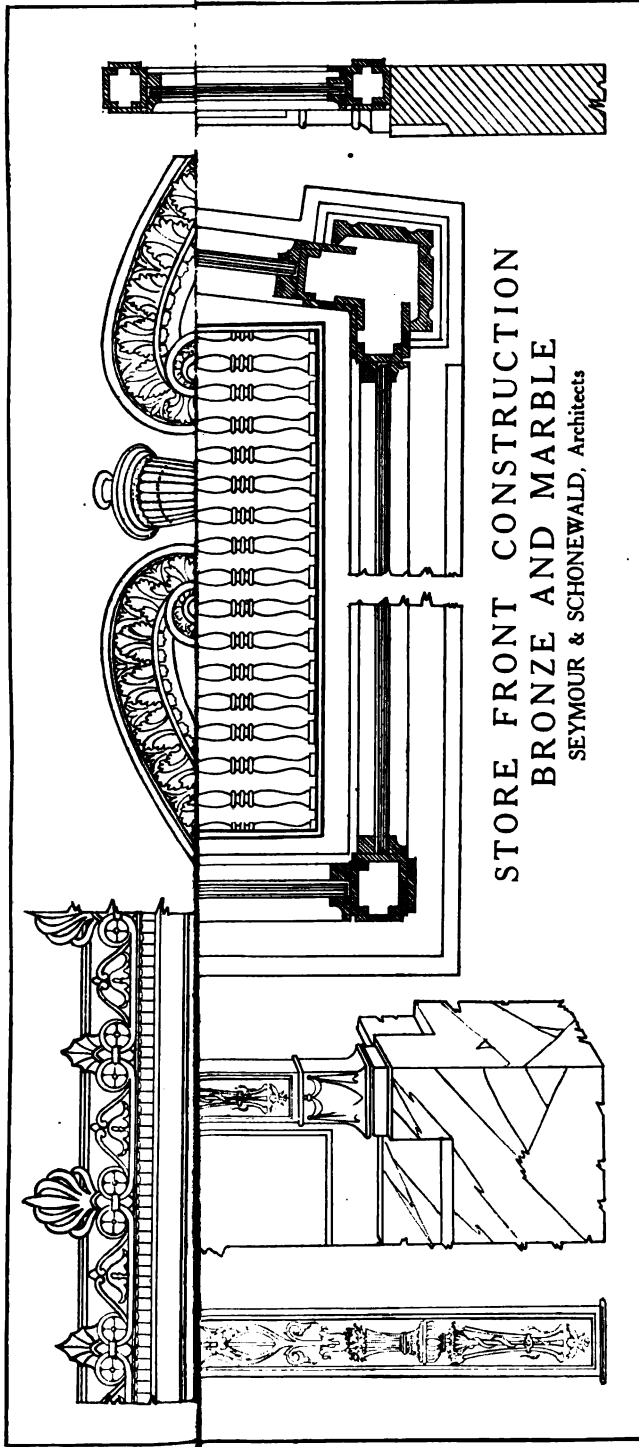
could be carried out entirely in metal, and with proper architectural study where care has been taken in arriving at symmetry and proper depth of windows, the result usually gives good commercial character.

The tendency today is for more glass and daylight, rather than for an adequate architectural appearance of strength and support and the composition of the design of the show window front proper need have but small relation to the composition of the general facades above. As these fronts are viewed more in detail from the street level rather than in their relation to the general scheme of the exterior of the building, it is very important that the detail and character of the material employed therein should be as attractive as it is possible to obtain in accordance with the amount to be invested in the improvement.



STORE FRONT OF HANAN & SON, BOSTON, MASS.

Bronze: The Gorham Co.



Copyright, 1915, By The Wm. T. Comstock Co.
Supplement to Architecture and Building.



DETAIL OF ENTRANCE TO STORE AT BOSTON, MASS.

Bronze: The Gorham Co.

Seymour & Schonewald, Architects.



THE BUILDING FRONT BEFORE AND AFTER IT WAS ALTERED. HANAN & SON STORE,
PITTSBURGH, PA.

Bronze: The Gorham Co.

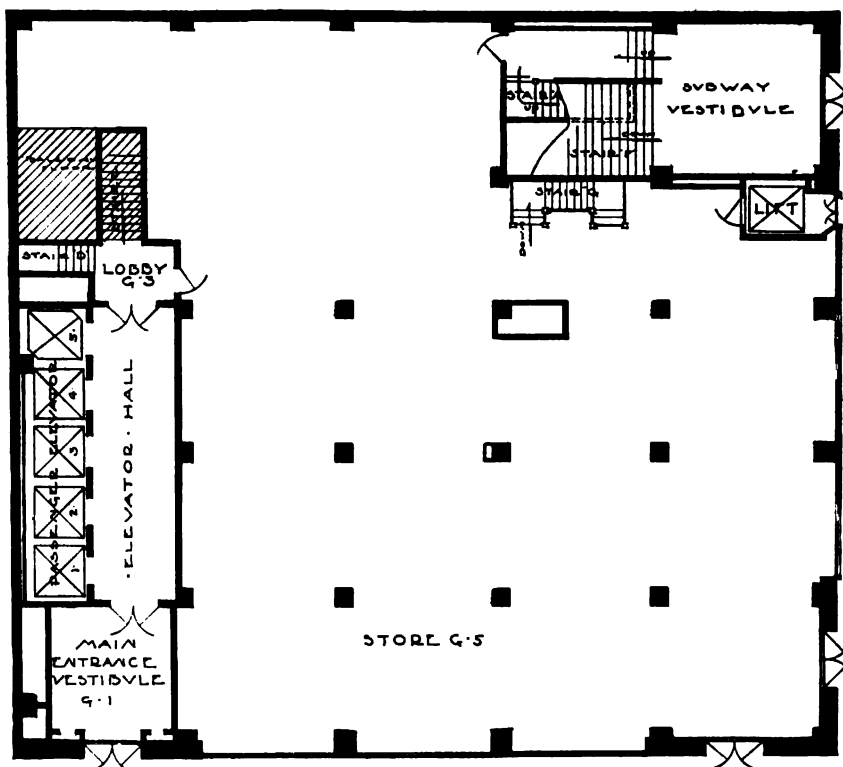
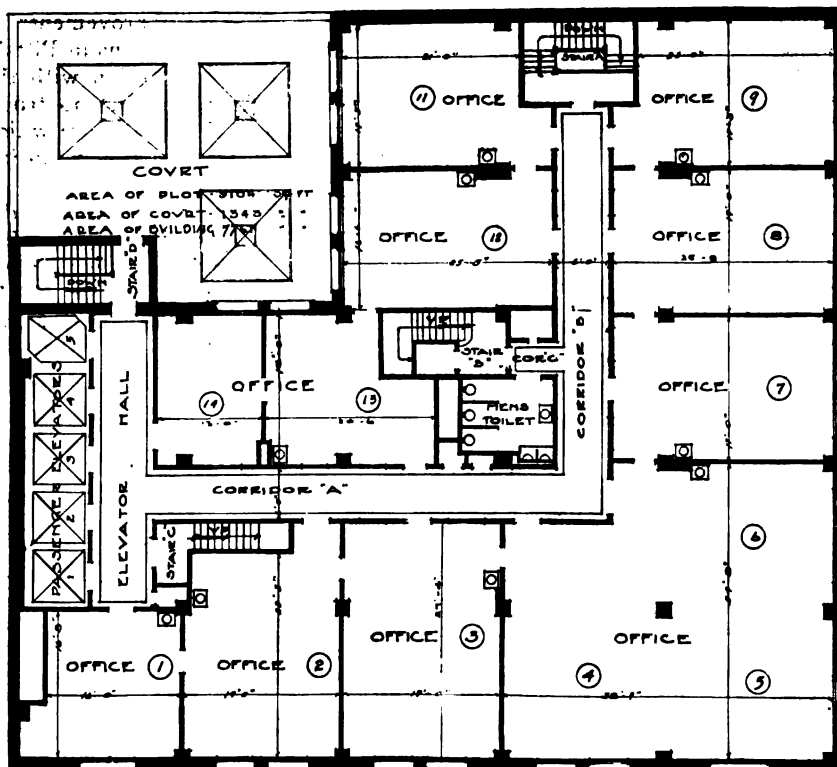
Seymour & Schonewald, Architects.

If the lease is for a longer period of time it is invariably a good investment on the part of the client to pay for marble and bronze rather than materials of lesser cost, as the additional effect of richness more than counterbalances the difference over the cheaper grades of material. It has been found by experience that the additional cost of these improvements are, in nearly all cases, more than made up in the enhanced renting value of not only the store itself, but also of the various stores above. This effect was very forcibly

demonstrated in the improvements in connection with the alterations in Pittsburgh, as illustrated in connection with this article, where the client had no trouble in renting all the lofts at a figure which was more than it was originally anticipated could be obtained.

In this particular case it was deemed advisable to alter and extend the front to include the second story, particularly, as both stories were to be occupied by the same tenant, Hanan & Son, for their retail shoe business.





VANDERBILT CONCOURSE OFFICES. PLANS OF FIRST AND SECOND STORIES.



VANDERBILT CONCOURSE OFFICES ON EAST 45TH STREET, NEW YORK.

Mason Contractors: The Micwiel Co., Inc.

Barrett Specification Materials.

Kalamein Doors, Windows and Trim: Reliance Fireproof Door Co.

Plumbing Contractors: James McCullagh, Inc.

Warren & Wetmore, Architects.

Clyde R. Place, Consulting Engineer.



VANDERBILT CONCOURSE OFFICES. ELEVATOR HALL.
Plain and Ornamental Plaster: T. A. O'Rourke, Inc. Warren & Wetmore, Architects.



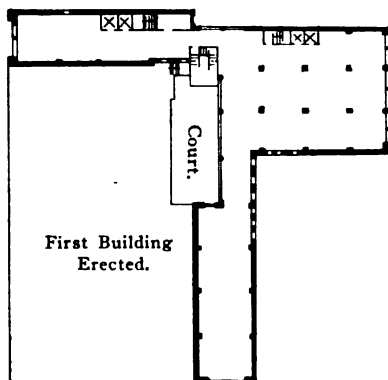
VANDERBILT CONCOURSE OFFICES. ELEVATOR CORRIDOR IN AN UPPER STORY AND AN
INTERIOR OFFICE PARTITION OF GLASS TILE.
O'Brien's Liquid Velvet Wall Finish used on Walls and Ceilings.
Stanley Butts.
Partitions: Keppler Glass Constructions, Inc.
Bommer Spring Hinges.

Vanderbilt Concourse Offices.

The erection of this twenty-story structure in conjunction with the Grand Central improvement is the natural consequence of the neighborhood development caused by the Terminal improvements themselves. This building is essentially an office building and its over-all dimensions, little short of a 100x100, provide fourteen large sized offices on a story, although the area may be less sub-divided, to give larger office spaces.

The connection with the subway and the Grand Central Terminal by the under-street sidewalk is an advantage to the tenants. There are five Otis traction elevators which run from the subway concourse in the basement to the full height of the building. The subway concourse runs through the basement of the building with a street entrance to East 45th street also.

The mason contractors on the building were the Micviel Co., Inc., and Clyde R. Place was the consulting engineer. The Reliance Fireproof Door Company did the kalamein work, consisting of the doors, windows and trim. The plain and ornamental plastering was done by T. A. O'Rourke, Inc., and the walls and ceilings are all finished with O'Brien's liquid wall finish. This finish throughout is very plain, as shown in the corridors and offices, but of a surface that is serviceable and easily cleaned. James McCullagh, Inc., held the plumbing contract for the building. There is a public toilet for men on each floor and in addition toilets for women on every third floor.



TYPICAL PLAN OF BONWIT TELLER & CO.
BUILDING ADDITIONS.

Bonwit Teller & Co. Building.

The original Bonwit Teller & Company building located at the corner of 38th street and Fifth avenue has been increased in area by extensive new wings which open upon 37th street, 38th street and 5th avenue. The architectural style of the original building has been maintained. The entire area of the 2d, 3d and 4th floors of the new wings is occupied by additional departments of Bonwit Teller & Company, but the new portions are for the most part built for renting to other tenants. The second floor is used for ladies' coats, suits, millinery, dresses, etc.; the third floor, for misses' and children's apparel and the fourth floor is as yet unassigned. In the new department of the third floor, the trim is Circassian walnut with bentwood furniture in finish to match and brown carpeting. Upon the third floor, the trim, cases, etc., are in mahogany. The lofts in the stories above are well lighted and of large area.

The building is of fireproof construction, fully sprinklered with all windows set in metal sash and door openings closed with metal doors which were supplied by the Interior Metal Mfg. Company.

The flooring throughout is hardwood which was supplied by the Indiana Flooring Company.

Rogers Peet Co. Building.

The new building for the Rogers Peet Company stands on the corner of 41st street and 5th avenue, with a wing extending through to 42d street. The Rogers Peet Company occupies the basement and ground story. The store fittings and cases are of mahogany and practically all the merchandise is displayed behind glass in dust-proof cases and cabinets.

The ceiling of the ground story is exceptionally high and the walls and ceiling above the line of fixtures are lightly tinted so as to aid the diffusion of light from the semi-indirect lighting fixtures.

The stories above are large open lofts which may be used for businesses requiring large space or the areas may be sub-divided for office use.

The main entrance for business offices is on 5th avenue. Here three elevators



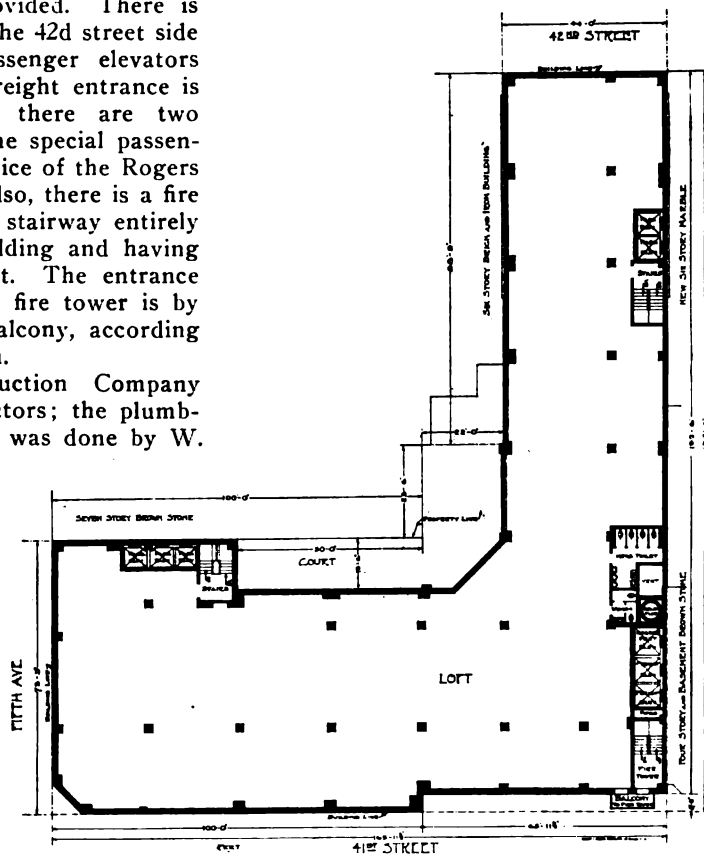
BONWIT TELLER & COMPANY BUILDING, 38TH STREET AND 5TH AVENUE, NEW YORK.
Barrett Materials. Percival Robert Moses, Electrical Engineer.
 Howells & Stokes, Architects.



ROGERS PEET COMPANY BUILDING, 41ST STREET AND 5TH AVENUE, NEW YORK.
 Townsend, Steidle & Haskell, Architects.
 Mason Contractors: Fullam Construction Co.
 Barrett Specification Materials.

and a stairway are provided. There is another entrance from the 42d street side provided with two passenger elevators and a stairway. The freight entrance is on 41st street. Here, there are two freight elevators and one special passenger elevator for the service of the Rogers Peet Company. Here also, there is a fire tower which contains a stairway entirely separated from the building and having direct exit to the street. The entrance from each loft into the fire tower is by means of an outside balcony, according to the Philadelphia plan.

The Fullam Construction Company were the mason contractors; the plumbing and sprinkler work was done by W.



ROGERS PEET COMPANY. PLAN OF TYPICAL STORY.

Townsend, Steinle & Haskell, Architects.



ADDITION TO THE BONWIT TELLER & COMPANY BUILDING. CORNER OF THE CLOAK DEPT.

Floors: Indiana Flooring Co.

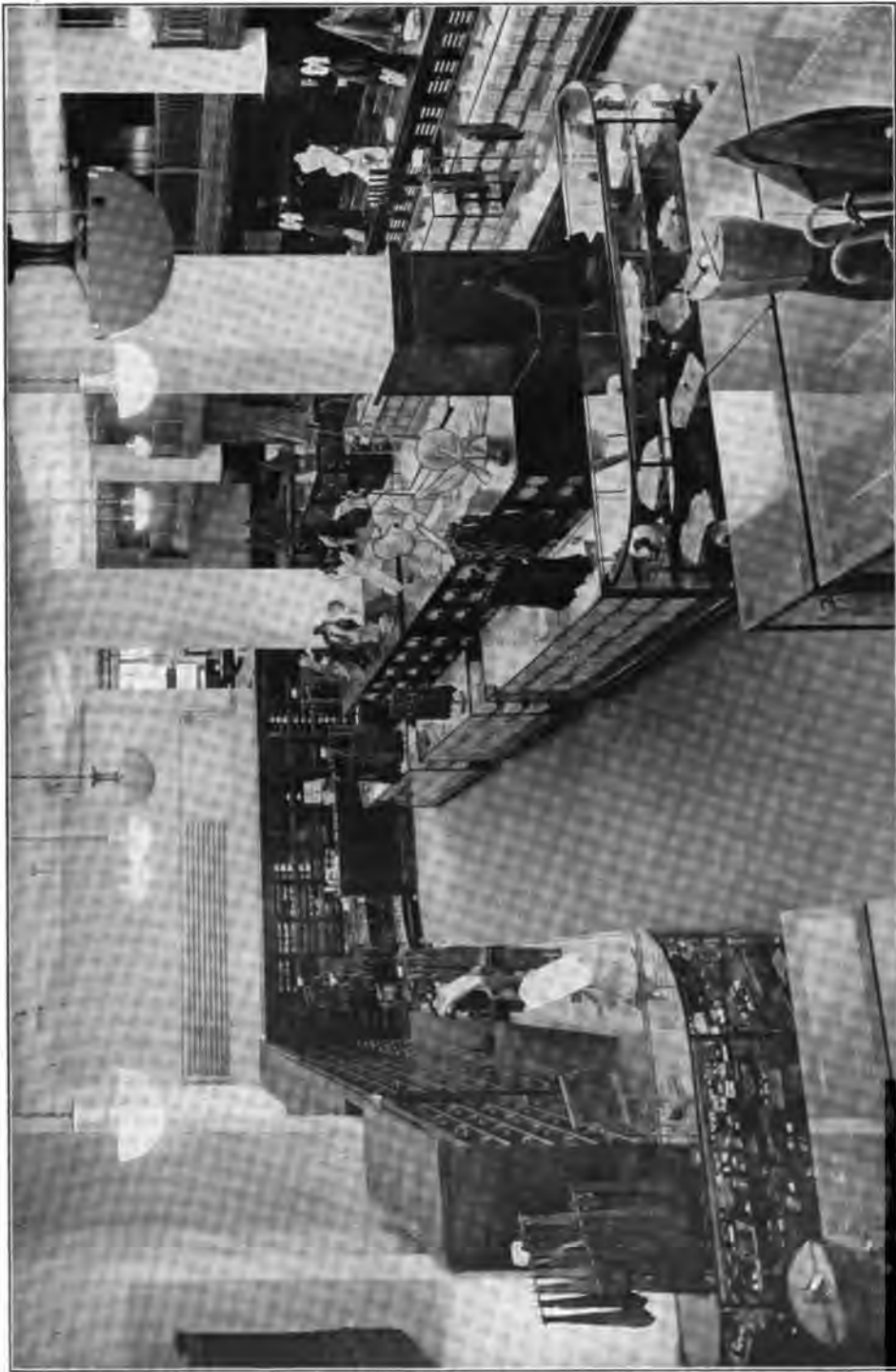
Chicago Spring Butts.

A. B. See Electric Elevators.

Metal Doors and Trim: Interior Metal Mfg. Co.

Howells & Stokes, Architects.

Percival Robert Moses, Electrical Engineer.



Courtesy of "The Haberdasher."

ROGERS PEET COMPANY BUILDING. INTERIOR.

Townsend, Steinle & Haskell, Architects.

Stanley Ball Bearing Butts,
Plumbing and Sprinkler System: W. G. Cornell Co.
Kalamain Doors, Windows and Trim: Reliance Fireproof Door Co.
Painting: W. P. Nelson Co.



CORN EXCHANGE BANK, 86TH STREET BRANCH, NEW YORK.

Builders: The Robt. S. Pollock Co.

H. T. Lindeberg, Architect.

Barrett Materials.

Bronze Entrance: John Polachek Bronze & Iron Co.



H. T. Lindeberg, Architect.



CORN EXCHANGE BANK, 86TH STREET BRANCH, NEW YORK.

Builders: The Robt. S. Pollock Co.
Bronze Grill: John Polachek Bronze & Iron Co.
Ornamental Plastering and Caen Stone: Jacobson & Co.

G. Cornell Company and the kalamein doors, windows and trim by the Reliance Fireproof Door Company.

Corn Exchange Bank.

The new 86th street branch of the Corn Exchange Bank is located near Lexington avenue. As there will be a station on the new Lexington avenue subway at 86th street, the location of the building is at a new distribution center of population advantageous to the bank.

The building itself is architecturally refined with a facade of marble, with the entrance grille and window carried out in bronze. The interior has walls of caen stone with a ceiling done in plaster to represent a beamed effect. This beaming is carried across the skylight, which on account of its large area is possible, without a sacrifice of necessary light. The large window of the front is re-

peated at the rear, giving a most symmetrical design. The floors and counter screen are in marble and the grille work of the counters in bronze. The safe deposit vaults are in the basement of the building with a stairway to them at the rear of the main floor.

The bronze entrance grille was made by the John Polachek Bronze & Iron Co. This opens into an interior vestibule also carried out in bronze, which opens into the public space of the bank which extends entirely along one side. The officers' desks are near the entrance, while the banking space runs through the center with a private corridor connecting all departments along the inner side.

The ornamental plastering and caen stone work was done by Jacobson & Company, and the builders, who had the contract for the entire building, were the Robert S. Pollock Company.





REGIS HIGH SCHOOL, EAST 85TH STREET, NEW YORK.

General Contractors: John T. Brady & Co.
Cut Cast Stone throughout: Emerson-Norris Co.

Maginnis & Walsh, Architects.



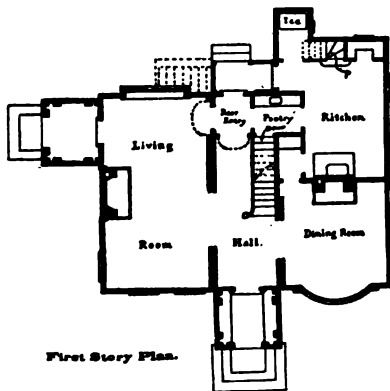
REGIS HIGH SCHOOL. ENTRANCE ON 85TH STREET.
General Contractors: John T. Brady & Co. Maginnis & Walsh, Architects.
A. B. See Electric Elevators.



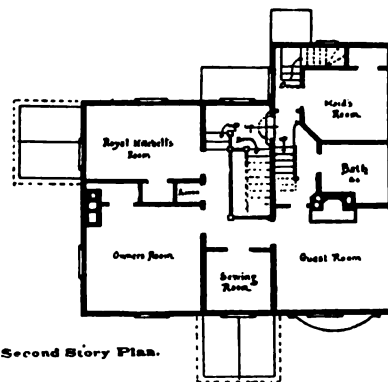
REGIS HIGH SCHOOL, AUDITORIUM.

General Contractors: John T. Brady & Co.
Lighting Fixtures: The Simes Co.

Maginnis & Walsh, Architects.



First Story Plan.



Second Story Plan.

COTTAGE AT EAST ORANGE, N. J.

May, 1915

ARCHITECTURE AND BUILDING

GENERAL LIBRARY

JUN 14 1915

UNIV. OF MICH.

Engineering
Library

"The Good Medicine-Taker"

By Theodore Starrett

The
Equitable Building
With Special Articles

Other Illustrations

Published by
The William T. Comstock Company
New York
20 c. a copy. \$2.00 a year.



"Globe" Ventilators

combine highest efficiency with strength and durability.

Made in heavy galvanized iron, copper and Toncan metal and with glass tops when desired.

Send for Model Demonstrating Operation

Globe Ventilator Co.

Troy, New York



STUCCO Made With



IS Waterproof & NON-CRACKING

Send a Postal for Book 91

The Standard Paint Co.

New York
Boston
Chicago

Capital, \$5,000,000.00



"F-S" Products Stand the Test of Time

Exceptional durability is a strong quality of our Elastic Gloss Finish. It is tough, as well as elastic. It dries free from dust in from 8 to 10 hours. It will prove worthy of your specification.

FELTON, SIBLEY & CO., Inc.

Manufacturers of Colors, Paints and Varnishes since 1863

136-140 North Fourth Street,

Philadelphia

(113)

ARCHITECTURE AND BUILDING

A Magazine Devoted to Contemporary Architectural Construction

WILLIAM P. COMSTOCK
Managing Editor

THEODORE STARRETT
Contributing Editor

Volume XLVII

MAY, 1915

Number 5

The gift of foresight—real knowledge of things that were to happen before they happened—belonged only to the prophets of old, at least so I have been told. There is no man living now that can tell exactly what a thing done in the building line is going to cost. There may be men who have said in advance that that thousand of bricks can be laid for so many dollars and so many cents, but if it came out exactly as they said, it wasn't prophesying—it was guessing. Or it might have been fancy timekeeping.

I knew a superintendent once—a contractor's superintendent—who was so positive about everything he did and so determined that every thing should come out exactly as he figured it, whether in cost or in the time consumed, that he never put down anything in the way of cost until after it had happened.

He would anticipate nothing. Even in such matters as making a time schedule, or, in other words, fixing a date on which this or that thing should be done, he would always wait until the thing was done; then he would write the date down on the schedule and know it was right. He was the kind of a man that if he had got to be a real contractor and builder would have told you what your building would cost after it was finished.

(If all buildings were done this way where would be all the money contractors have lost, or where would be the buildings that have been built?)

The boss of this iron-headed superintendent was not that kind of a man. He had to anticipate; he had to guess what the job was worth, and, as I have expressed it before, make a bet with the owner that he could do it for so much money and in such and such a time.

I was speaking of making the cost come out the same as the estimate. I said that if it did, exactly, it was a good guess and not prophecy—not foreknowledge, for the days of the prophets are gone.

Well, this contractor's superintendent used to amuse himself—I think it amused him or interested him or entertained him—

by making an estimate, or guess, once in a while, and he always made the cost come out exactly the same as the estimate. He did it by fancy timekeeping—which I spoke of just back there.

It was a modern establishment, this contractor's establishment that I am speaking about, and they kept time the way time should be kept. They had timekeepers and materialmen on every job, and my superintendent friend—he of the iron jaw and the inflexible will—used to cause his timekeeper to force the cost of any line of work to any desired sum or amount (to fit the estimate that I have just said he sometimes condescended to make)—this iron-jawed superintendent used to force the cost by charging any excess to General Conditions, an item in the cost of the work that he had had nothing to do with and didn't intend to have anything to do with, because it was the boss's lookout.

Unfortunately the boss had to pay for all the general conditions and they were made to cover such a multitude of sins that the iron-jawed and omniscient superintendent was worse than none at all. He was prophet with respect to certain parts of the work, but worse than useless as regards the whole work.

I wonder if there is any contractor in the world reading this. I wonder if any contractor could tear himself away from the lists of contracts to be let long enough to read what is written here.

Well, a shrewd money-making contractor only yesterday told me that he had lost thirty thousand dollars in the past year.

How did he lose it? By getting "preferences" on work and doing it at other people's figures. He was a desirable contractor from somebody's point of view, skillful, good natured, no scrapper for extras and a good medicine-taker. That's why they liked him. That's why he got the jobs. Thirty thousand dollars worth of wrong guesses in one year!

A contractor is not a prophet, but after he has built a few things he knows what they will cost—if he is a man who has the power of observation coupled with memory and judgment. The best ones that I have known say that the uncertainty of anticipating cost is great as well as very surprising. Two jobs, exact duplicates, may cost 100 per cent. apart. This is due to different men doing them and to the uncertainties of trade union supply and demand.

Yet many and many a contractor forgets the uncertainties—certainties they should be called—of the game, and listens to the persuasions of——somebody, to undertake work at other people's figures.

Sometimes they are not even that. Sometimes they are imaginary figures that those poor devils of contractors are persuaded to take work at.

I hope there is a good hot place in the Infernal Regions reserved for those wanton mischief-makers—those robbers who persuade contractors to take work at other people's figures.

There should be, too, a good hot pavilion for the fellows that make those figures.

Theodore Starrett.

THE EQUITABLE BUILDING

E. R. GRAHAM, Architect

The new Equitable Building is so representative of the growth of the Equitable Life Assurance Society that a few words concerning the development of that company seem almost necessary in a prefatory sense to a description of the building.

The Equitable Society was organized on the 18th of April, 1859, and was duly authorized to commence the business of insurance on July 26, 1859. Since then, through the efforts of many able men, the company's growth has been rapid. Its first offices were at No. 98 Broadway in a few rooms. A decade later the original Equitable Building occupying the southeast corner of Broadway and Cedar Street was completed. This was the beginning of what is now known as the old Equitable Building. Gradually the property was acquired which rounded out the entire block on Broadway between Pine and Cedar Streets, extending through to Nassau. The old building, remodeled in 1887 by George B. Post, was a landmark in the city for many years. In the history of the passenger elevator, it is notable that in 1870 in the Equitable Building the first two elevators to be installed in an office building were placed. The destruction of the old building by fire on January 9th, 1912, is still fresh in our memories.

In August, 1912, the Equitable Life Assurance Society sold the Equitable site, known as 120 Broadway, to the Equitable Building Corporation, headed by Gen. Thomas Coleman Dupont. The work of erecting the new building was very promptly begun. On April 29, 1914, Mayor Mitchel laid the corner stone and today this, the largest office building in the world, is largely occupied by its tenants.

The ground area covered by the structure is approximately 48,000 square feet. The foundations were carried down to bed rock at an approximate depth of 85 feet below the curb entirely around the site. The outer foundation consists of a concrete coffer dam, fully reinforced, 6

feet in width. To carry the interior columns of the building, 80 caissons were sunk in the interior of the site. Within the coffer dam area the lot is excavated to a depth of about 50 feet which gives space for the three basements of the building. The building contains 40 stories above the street level, the two top stories being within the pent house. The main roof is 545 feet above the street. Two courts pierce the building, opening on the Broadway and Nassau Street sides above the sixth story, making the plan in the shape of the letter H and reducing the space to about 30,000 square feet per floor. The total rentable floor area of the building is about 1,200,000 square feet, and the cubic contents of the building about 26,000,000 cubic feet. The cost of erecting this building approximates \$15,000,000.

The exterior finish consists of granite columns up to the fourth story course. Above this to the seventh story course architectural terra cotta in color and texture to match the granite was employed. Architectural terra cotta was used for the ornamentation of the top of the building. Light face brick is the cladding for the walls of the intervening stories.

The principle of the main story arrangement is that of a cross. A wide main corridor runs through the building from Broadway to Nassau Street, with a transverse corridor crossing the middle of the building from Pine to Cedar Street. There are two other short cross corridors for the elevators, to either side of the latter with connecting transverse corridors giving complete circulation about the elevator groups. The elevators all open on the cross corridors and are divided into six groups of eight cars each. In the upper stories where the typical plan arrangement of the building is shown, these three cross corridors are repeated in part and they connect with the office corridors which run parallel to Pine and Cedar Streets through the center of



ON AUGUST 24TH, 1914, THIS WAS THE CONDITION OF THE EQUITABLE BUILDING.
Testing and Inspecting Structural Steel: Robert W. Hunt & Co., Engineers.
Terra Cotta: Federal Terra Cotta Co.
Front Brick: Hydraulic Press Brick Co.



THE EQUITABLE BUILDING, NUMBER 120 BROADWAY, NEW YORK.

Builders: Thompson-Starrett Company.
 Front Brick: Hydraulic Press Brick Co.
 Otis Elevators.
 "Globe" Copper Ventilators.
 Rolling Steel Doors: Jas. G. Wilson Mfg. Co.
 Pittsburgh Plate Glass.
 Barrett Specification Roofing and Waterproofing Materials.

E. R. Graham, Architect.

Charles E. Knox, Engineer on Elevators.

Henry C. Meyer, Jr., Consulting Engineer for Equitable Society.

each wing, or in the uprights of the H. The arrangement of this plan is such that the building is naturally divided into four sections which are separated from each other by 8-inch brick fire walls, the openings in which are closed by fire doors. In each of these four sections there is a fire tower and at least one group of eight elevators. The typical plan provides 62 offices on each floor with each office having at least two outside windows and being from 16 to 19 feet wide with an almost uniform depth of 23 feet. In other words, each office occupies one bay of the building where the story is completely divided into small offices. The size of the offices is such as to take the greatest advantage of the natural light. Between the wall columns, center to center, there is an average distance of 16 feet 10 inches. The columns occupy about 5 feet, and the remaining space is divided into two large windows with a narrow mullion between. The depth of 23 feet is about the maximum depth for good uniform natural illumination.

The elevator equipment of the building, as mentioned, consists of six main groups of eight cars each, a total of 48 passenger cars. There are five additional cars for private use of tenants and for the building. Mr. Charles E. Knox was the consulting engineer for the elevator equipment, and the type of elevator used is the Otis gearless traction machine. Of the six banks of eight cars each, the first is local, serving the first to the tenth floors, the second is express from the first to the eleventh floor and local to the eighteenth; the third is express from the first to the nineteenth floor and local to the twenty-fourth; the fourth is express from the first to the twenty-fifth floor, and local to the thirtieth, the fifth is express from the first to the thirty-first floor and local to the thirty-sixth; the sixth is all local, serving all floors from the first to the thirty-eighth. In this group there is one safe lift elevator and one large combination passenger and freight elevator which travels from the sub-sub-basement to the thirty-seventh floor, a total rise of 546 feet 8 inches.

The principal corridors of the Equitable Building are finished in Tavernelle marble panelling to the full height of the walls. This same marble is used through-

out the building for wainscoting, panelling and bases. The ceilings are in ornamental plaster, cream-tinted and the entire finish throughout the building is in the same neutral tones. The public corridors throughout are floored with marble tile, and the walls and ceilings plainly plastered and painted with flat-finish, cream-tinted paint. With the exception of a few private offices especially equipped, there is no woodwork in the trim or finish of the building. All doors with their casings and trim are of hollow steel and within the offices the base, window casings and trim and picture mouldings, wire conduits, etc., are also of hollow steel. Eighteen-gauge steel reinforced with steel angles and acetylene-welded, is used. The finish is grained to represent mahogany in seven coat baked enamel. The frames and sash of the windows are of welded steel with the upper and lower sections connected by Austral balance arms which hold the windows in any position, obviating the use of sash weights and pulleys.

The Equitable Life Assurance Society occupies the entire 6th and 7th stories of the building and the 8th and 9th stories in part. For the agents of the Metropolitan district, there is additional space. After the fire the society secured temporary accommodation and they moved again into their home in the new Equitable Building on April 26th, 1915.

The designer of the building was E. R. Graham, the builders, the Thompson-Starrett Company. Henry C. Meyer, Jr., was the consulting engineer for the Equitable Life Assurance Society, C. E. Knox was the engineer for the elevator work, and Robert W. Hunt & Company tested and inspected the structural steel of the building.

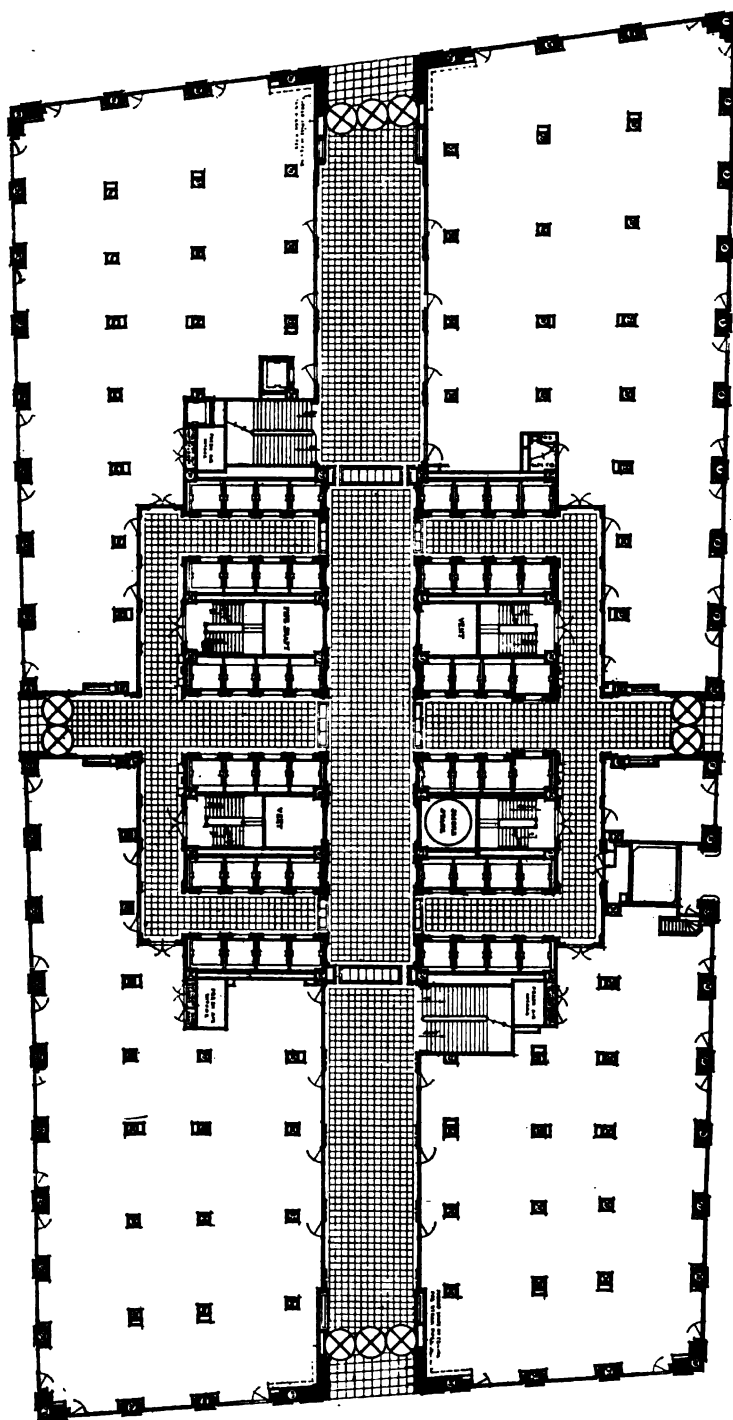
The foundation work was done by the O'Rourke Engineering Construction Company. The front brick, which is the main material of the exterior, was supplied by the Hydraulic Press Brick Company and the ornamental terra cotta by the Federal Terra Cotta Company. In the interior, the marble throughout is Tavernelle. This came from quarries situated between Verona and Venice in Italy. The marble work throughout the first story and in other important por-



THE TERRA COTTA MATCHES THE GRANITE IN COLOR AND TEXTURE.

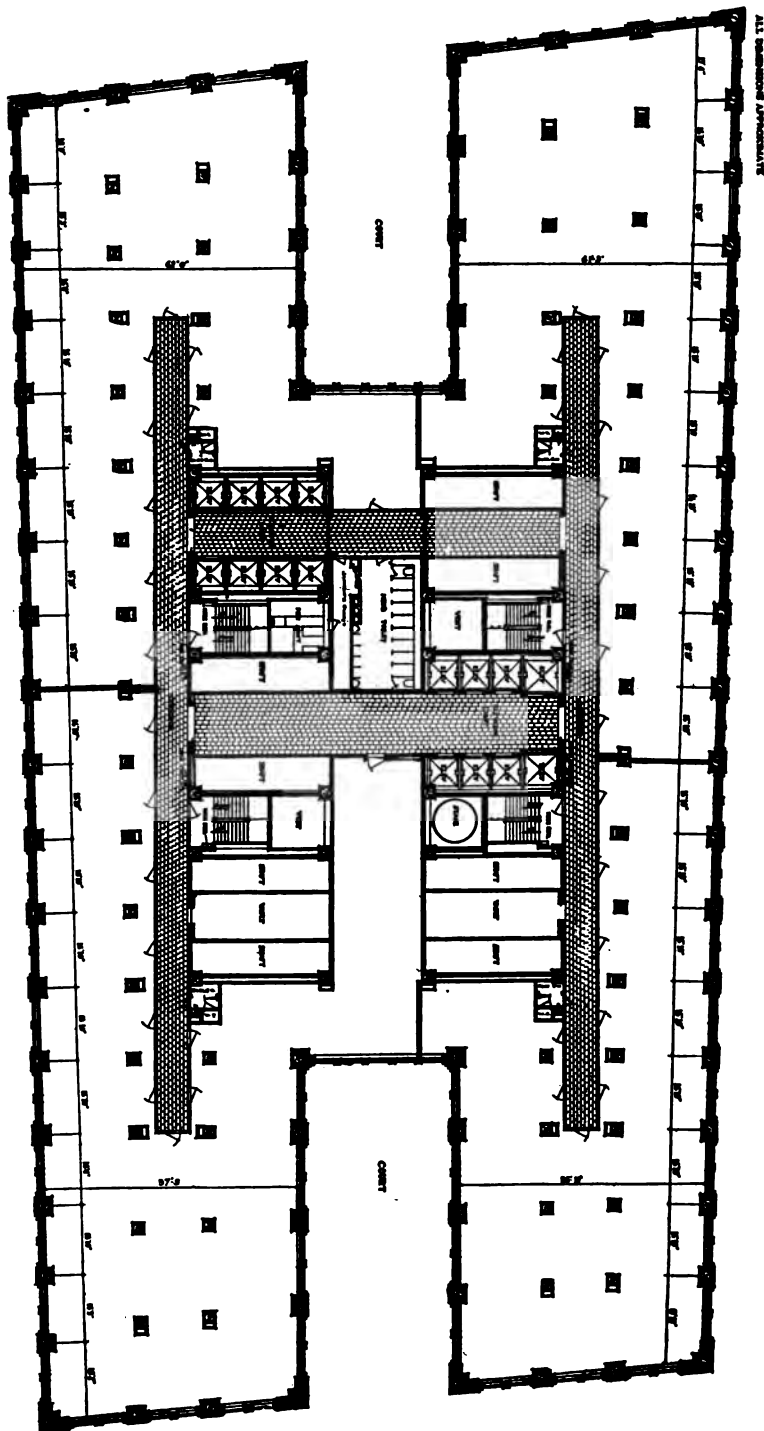
Terra Cotta: Federal Terra Cotta Co.
 Front Brick: Hydraulic Press Brick Co.
 "Limoid" in cement mortars: Charles Warner Co.
 Star Expansion Bolts.

E. R. Graham, Architect.



THE MAIN STORY PLAN OF THE EQUITABLE BUILDING.

E. R. Graham, Architect.



TYPICAL PLAN OF 7TH TO 10TH STORIES OF THE EQUITABLE BUILDING.
E. R. Graham, Architect.



TYPICAL ELEVATOR CORRIDOR. NOTE FIRE OPENINGS WHICH WHEN CLOSED SEGREGATE IT.

Fire Hose: Chas. Niedner's Sons Co.
Metal Doors and Trim: Empire Art Metal Co., Inc.
Mellite Glassware: Gillinder & Sons, Inc.
LAM-COTE Wall Paints: Neven Sparks Lamb, Inc.

E. R. Graham, Architect.



TYPICAL OFFICE CORRIDOR, SHOWING TWO FIRE OPENINGS WHICH ARE CLOSED BY SLIDING FIRE DOORS HELD OPEN ON FUSIBLE LINKS.

tions of the building was done by the Traitel Marble Company. The Hecla-Winslow Company, Inc., did the ornamental iron work and bronze work and supplied the counter balance metal windows which are used exclusively. Barrett roofing and water-proofing materials are used. The Pittsburgh Plate Glass Company supplied the plate glass in the building. The metal doors and trim were supplied by the Empire Art Metal Company, Inc. There are eight Cutler mail chutes which discharge into four large bronze boxes located in the first story corridors.

The plastering contractor was John W. Kissell, Inc. Under his contract, the Architectural Plastering Company, Inc., did the ornamental plastering. "Alca" lime was used for the interior plastering and was supplied by the Charles Warner Company, who also furnished the "Lim-oid" (hydrated lime) for use in the cement mortars to make them both plastic and waterproof. Akron finishing plaster manufactured by the Akron Gypsum



MAIN STORY. CORRIDOR, PINE TO CEDAR STREETS.

Marble: The Traitel Marble Co.
 Plastering Contractor: John W. Kissell, Inc.
 Ornamental Plastering: Architectural Plastering Co., Inc.
 Ornamental Iron and Bronze: Hecla-Winslow Co., Inc.
 Painting and Decorating: W. P. Nelson Co.
 Devoe Black Velour Finish on Ironwork.
 Akron Finishing Plaster made by Akron Gypsum Products Corporation.
 Otis Elevators. Cutler Mail Chutes.

E. R. Graham, Architect.



STAIRWAY LEADING FROM MAIN CORRIDOR.

Marble: The Traitel Marble Co.
O'Brien's Liquid Velvet Wall Finish.

Products Corporation was used. Corner beading in the plastered walls was supplied by Fuller Brothers & Company, and the metal lath was made by the Expanded Metal Engineering Company and put up by Arthur Greenfield, Inc.

The glass for the lighting fixtures was made by Gillinder & Sons, Inc., and is known as Melilite glass. This is used extensively in the public corridors and offices of the building.

The painting and decorating of the building was done by W. P. Nelson Com-

pany. Flat finish paints are used on the walls and several kinds have been employed. Sherwin Williams wall paints were used and also O'Brien's Liquid Velvet wall finish, and Lam-cote supplied by Neven Sparks Lamb, Inc. The F. W. Devoe and C. T. Raynolds Company supplied the Devoe Velour finish, a flat washable oil paint for walls and their black Velour finish for iron work. Devoe black Flexile paint was used in the elevator shafts, and other Devoe materials throughout the building.



MAIN STORY ROTUNDA FROM BROADWAY TO NASSAU STREET.

Builders: Thompson-Starrett Company.
 Ornamental Plastering: Architectural Plastering Co., Inc.
 Akron Finishing Plaster made by Akron Gypsum Products Corporation.
 Marble: The Traitel Marble Co.
 Sherwin Williams Wall Paints Used.
 Painting and Decorating: W. P. Nelson Co.

E. R. Graham, Architect.
 Henry C. Meyer, Jr., Consulting Engineer for Equitable Society.
 Charles E. Knox, Engineer on Elevators.



EQUITABLE LIFE ASSURANCE SOCIETY. PRESIDENT'S ROOM. CONSULTATION ROOM.
Desk and Table: Irving & Casson and A. H. Davenport Co.
Metal Windows: Hecla-Winslow Co., Inc.
Devoo Velour Finish for Walls.
Painting and Decorating: W. P. Nelson Co.



EQUITABLE LIFE ASSURANCE SOCIETY. CASHIER'S DEPARTMENT. ANNUAL DIVIDEND BUREAU.

Furniture Equipment: Thomas Bruce Boyd.
 Clock System: Self Winding Clock Co.
 Fire Hose: Chas. Niedner's Sons Co.
 Conduit: National Metal Moulding Co.
 Chairs made by The B. L. Marble Chair Co.

Plastering Contractors: John W. Kissell, Inc.
 Corner Beading: Fuller Brothers & Co.
 "Alca" Lime for Plastering: Charles Warner Co.
 Metal Doors and Trim: Empire Art Metal Co., Inc.
 Melilite Glassware: Gillinder & Sons, Inc.



THE EQUITABLE BUILDING AND ITS SURROUNDINGS.

Builders: Thompson-Starrett Company.

FIRE PREVENTION MEASURES IN THE EQUITABLE BUILDING

By EDWARD ROCHIE HARDY

IT has been the fortune good or bad of the writer to be in touch with the new Equitable Building, at least its fire prevention devices and equipment, from not merely the beginning but it might almost be said from a time previous to the beginning. In a property as notable as this, the matter of insurance is too important to be passed over until the last moment. Almost before there is a public announcement that such a structure is to be erected, while plans are tentative only, that phase of the subject is very apt to be taken up with the underwriters.

It may be stated in passing that probably no building, leaving aside sprinklered risks, has had quite the care and attention devoted to fire protection and prevention as has been the case in the Equitable, and when it is finally completed and rounded out into a whole it will represent outside of sprinklers (and those are installed below grade and in some spots above grade as well) as protected a property as it is possible to secure for that type of risk. There are two things that would have been desirable: one, the use of wired glass windows throughout, and the other the use of sprinklers throughout. We do not harp on the use either of wired glass or sprinklers from the hobby standpoint but solely from the fact that an investment of private capital running into as many millions as this is worthy of the highest protection known to the fire fighting science. Perhaps we would be willing, we are in fact, to go beyond this and state that it is more or less of a duty (more rather than less) incumbent upon the investors in the erection of so high and large a property to make absolutely perfect provision purely from the civic standpoint.

The details of the Equitable equipment in general have been set forth in many magazine articles. In brief, the equipment consists of sprinklers below grade, and in connection with the kitchens of the restaurants above grade, that is, on the upper floors, a full supply of chemical extinguishers, a very liberal supply in fact, installed throughout the whole property; a series of standpipes, broken at the different levels into convenient units with ample tank supply for any ordinary, or

we might say extraordinary fire in the building since the pumps will be able to furnish a steady supply when the tank supply has been exhausted; watchman service on duty practically all the time; a signal system, that will at once be rung in when a fire is discovered in any portion of the building, which includes a device which will inform the engineer on just what floor the fire has started. One can really appreciate that in a building towering as many stories in the air as this does the mere information that there is a fire in the building while of some value to the fire fighting force of the building, is not adequate. It is of primary importance that the exact floor or spot of the fire shall be located. This is done by the signalling system. The building is divided into four vertical units, and where the walls which make these four divisions are pierced within the stories, the protection at these openings is by approved standard fire doors. The floor openings are of standard construction throughout. This applies not merely to the main arteries such as elevators and stairways, but the minor shafts as well. It would be rather impossible to imagine, short of installing sprinklers and wired glass throughout, what else might have been done in the



THE MORNING AFTER THE FIRE.

primary importance that the exact floor or spot of the fire shall be located. This is done by the signalling system. The building is divided into four vertical units, and where the walls which make these four divisions are pierced within the stories, the protection at these openings is by approved standard fire doors. The floor openings are of standard construction throughout. This applies not merely to the main arteries such as elevators and stairways, but the minor shafts as well. It would be rather impossible to imagine, short of installing sprinklers and wired glass throughout, what else might have been done in the

building more than has been done. The maintenance of such a property is of signal importance, and it is probably needless to state that the Equitable will have this. Indeed, it won't be a success without it.

One frequently hears that the erection of such structures is due to this or due to that feature, to this invention or to that. It is safe to say, however, that such a structure as the Equitable Building is dependent upon three things more than on any others. First: The invention of skeleton construction; second, the invention and development of elevator service; third, the invention and development of adequate fire protective devices. It is impossible to conceive how, with the lack of any one of the three, it could have been done. The skeleton construction has made the height and size possible, the elevator has made the upper floors as available almost as the ground floor, and the fire fighting devices at present in use have made the protection of the remote spaces possible.

In regard to the use of wired glass in such structures, in due course we shall probably come to that. Many things retard its use, possibly not the cost so much as the difficulty of securing satisfactory sashes of metal. But strangely enough, apparently, the mechanical devices are not the chief obstacles. The real estate agent tells you that it is very hard to rent offices which have wired glass in the windows. The prospective tenant, he tells you, states that should he have an office with wired glass in the windows he would feel as though he was looking out of a "chicken coop." That phrase "chicken coop" has done as much as anything else to retard getting wired glass in structures of this type. In due time, of course, and perhaps it is not far distant, the objection to wired glass, the "chicken coop" phase of it at least, will pass away and likewise aesthetic objections to sprinklers. Both of these valuable accessories we shall probably find in the next structure of this type that will be erected.



THE SITE ON THE 2ND OF DECEMBER, 1913.



THE EMPIRE TRUST COMPANY OCCUPYING THE BROADWAY AND PINE STREET CORNER.

Clock System: Self Winding Clock Co.
 Hardwood Floors: Floor Surfacing Co.
 Plastering Contractor: John W. Kissell, Inc.
 Metal Lath Makers: Expanded Metal Engineering Co.
 Metal Lathing Work: Arthur Greenfield, Inc.
 Chairs made by The Marble & Shattuck Chair Co.

Painting and Decorating: W. P. Nelson Co.
 Bronze Counter Screen: Hecla-Winslow Co., Inc.
 Ornamental Plastering: Architectural Plastering Co., Inc.
 "Alca" Lime for Plastering: Charles Warner Co.
 LAM-COTE Wall Paints: Neven Sparks Lamb, Inc.
 Rubber Mats and Runners: Rolle Rubber Co.



ENTRANCE TO THE EMPIRE TRUST COMPANY.

Bronze Covered Doors: Reliance Fireproof Door Co.
Evan's "Crescent" Expansion Bolts,
Pittsburgh Plate Glass.

In the Equitable Life Assurance Society's offices, the furniture equipment was planned by Thomas Bruce Boyd. The chairs in these offices were made by the B. L. Marble Chair Company. Irving & Casson and A. H. Davenport Company furnished the fine mahogany desk in the President's Room and the table in the Consultation Room.

The Empire Trust Company has its large Banking Room in the Broadway and Cedar Street corner. This room is finished in Tavernelle marble with a handsome bronze banking screen and ornamental plaster ceiling entirely overlaid with silver gilt.

The Trust Department of the company is located on the third floor and is reached

by a special elevator within the bank, and its finish is similar to that of the main banking room.

The hardwood floors in the office portions of this bank were laid by the Floor Surfacing Company. The office chairs were supplied by the Marble and Shattuck Chair Company and the Reliance Fireproof Door Company supplied the bronze covered entrance doors.

The banking room of Lazard Freres is at the rear of the second floor and is reached by a private elevator from the main corridor. This banking room is finished in mahogany paneling with a counter screen of mahogany, marble and bronze. The bronze work was executed by the Gorham Company.



BANKING ROOM AND PRIVATE OFFICE OF LAZARD FRERES ON THE 2ND FLOOR.

Bronze: The Gorham Co.
 Plastering Contractor: John W. Kissell, Inc.
 Marble: The Traitel Marble Co.
 Sherwin Williams Wall Paints Used.



THE BANKERS' CLUB OF AMERICA

The top stories of the Equitable Building from the 38th to the 40th are to be occupied by the largest lunching club ever attempted, the Bankers' Club of America.

The club will have five large main dining rooms. No strict decorative period will be adhered to, but the feeling is Italian, rather than French. The main lounging room is in pure Georgian and suggests Inigo Jones.

The color schemes of the rooms are to be developments of the shades and tones of single colors, greens, reds, blues and browns, one color as the key of each room.

The operation of the club means paying rent for 168 hours a week for only 14 hours of business a week. It must be so perfectly planned, thought out and administered that it will receive sufficient patronage. It is really a manufacturing plant, where the commerce and the whirl of wheels are absolutely hidden, but none the less present. It is more than a question of architecture and decoration, it is a study of the needs of man. To serve twelve hundred persons well within one hour and a half each day is the problem.

Mr. Henry J. Davison, the decorator, who it will be remembered designed and decorated the Whitehall and New Lawyers' Clubs, has made a particular study of clubs in both Europe and America and

his skeleton plan, around which he builds, is set forth in the following syllabus:

Eye, aesthetic beauty.

Ear, quietude.

Nose, no odors, no draughts, yet abundance of pure air.

Touch, satisfying to hand, body fitting, inviting chairs.

Palate, choicest food, perfect service, quiet prompt, efficient, hot.

Each of these senses must be perfectly ministered to and none must receive offense.

Another interesting heading additional to the above is legs. Unnecessary walking of either a member or a waiter means fatigue, irritation, poor service, cold food, delay and added expense. If a waiter has to walk fifty feet, when he should walk but twenty-five, two waiters are needed instead of one.

Dwellers in the great cities of America are wearing out their nerves because of eye and ear strain. One of the most difficult problems that a decorator of today has to confront in modern steel structures is the overcoming of the intense light. The effort of the architect is to get as much window space as possible, in order that the bays may cut up advantageously to tenants. Where a club is placed on the top stories of a skyscraper, with no skyline, and where all partitions are removed

and vast spaces take the place of bays as units, what is a positive virtue from the architect's point of view, becomes almost a vice to be overcome by the decorator. A person sitting close to the window does not notice the glare and the spotty effects produced by the window and the shadow space between the windows, so trying to members sitting in the interior of the room. This problem taxes the decorator to his utmost. It cannot be overcome. It can only be mitigated. It may be put down as axiomatic, that the more windows, the worse the ventilation and the worse the light, for everybody seeks a window and will not open the window and catch cold for the benefit of the people in the back of the room, nor will they pull down the blinds.

The question of ventilation, therefore, becomes a very important problem. In the Bankers' Club of America it is said to have cost between fifty and seventy-five thousand dollars for artificial ventilation alone. It must be borne in mind that ventilation brings up the question of not only fresh, pure air and freedom from odors, but also the removal of great quantities of smoke. The filling of the rooms with members is so sudden when the luncheon hour comes, that their coming and going seems almost magical. Smoke should not be noticed in the room, despite the fact that possibly three or four hundred men are smoking at one time.

A word as to noise is not without interest as relating to the peculiarities of modern steel construction. Were it possible



ENTRANCE ROTUNDA.

Rugs: Persian Rug Manufactory.
Red Velvet made by Cheney Brothers.
Lighting Fixtures: Sterling Bronze Co.
Marble: The Traitel Marble Co.



BANKERS' CLUB OF AMERICA. THE TWO LARGE DINING ROOMS.

Red Velvet made by Cheney Brothers.
Cove Lighting Reflectors: National X-Ray Reflector Co.
Lighting Fixtures: Sterling Bronze Co.

E. R. Graham, Architect.
Henry J. Davison, Decorator.



THE GRILL ROOM.

to draw on paper lines showing the vibrations of the human voice as they are bounced or reflected from wall to wall in a room in which there are several hundred people, the lines would so interlace as to make almost solid black on the paper. This is one of the problems that Mr. Davison has studied and solved, so that he succeeds in producing quiet, a sense of repose and restfulness to the members.

The lighting fixtures of the Bankers' Club were made by the Sterling Bronze Company. The cove lighting fixtures were supplied by the National X-Ray Reflector Company. Cheney Bros. man-

ufactured the red velvet for the hangings in the rotunda and lobby and are supplying the silk brilliant draw curtains in the ladies' dining room. The rugs for the rotunda and main hall were made in America by the Persian Rug Manufactory and are of special quality in colors to conform with the color schemes of the rooms.

For the grill room the china service is Royal Copenhagen porcelain of the famous Mussel pattern in blue applied on the wonderful semi-translucent ware which has been manufactured by the Royal Copenhagen Porcelain and Danish Arts since 1779.



GRILL ROOM PORCELAIN, BANKERS' CLUB.

Made by Royal Copenhagen Porcelain and Danish Arts.

LIGHTING THE EQUITABLE BUILDING

By F. LAURENT GODINEZ

The fixture manufacturer who is up against a job like the Equitable Building has slight cause for rejoicing. Small profits—if any—are his portion of the spoils, with unlimited abuse and criticism as a bonus, supplied by every one who thinks he knows anything about lighting. My first impression on entering the Equitable Building was one of relief. My second, was of disappointment. Relief, because the inevitable soup bowl, of the semi-indirect or indirect type was not in evidence, and disappointment in that the unusual opportunity offered by the impressive main corridor for something original and distinctive in the way of a direct-lighting fixture had proven too elusive for the manufacturer to grasp. In any event the fixtures installed are of the most ordinary conventional type—of a design which has been used continuously for applications of a similar character ever since electric lamps became popular. The use of electric bulbs, closely spaced suggests the outline letter of the vulgar electric sign, and is utterly out of keeping for such an application. The fixture could be improved immeasurably by using lamps of different shape which could be encased within specially designed globes reflecting at least some degree of distinctiveness and refinement. As one regards this fixture, it isn't difficult to imagine its maker, "laying down the law" and proclaiming his intention to "do as he pleased without bothering with those confounded glass manufacturers." And this is the age of co-operation! Those fixture manufacturers who are still in business, and hope to stay, had better make up their minds, and quickly too, that their chances for sticking depend entirely upon their intelligent co-operation with the glass industry. Their impression regarding the adaptability of glaring electric bulbs, of the smaller sizes, even when "frosted" to fixtures of a type used several years ago with obsolete carbon lamps, is a delusion which will never be realized, and one which had best be abandoned immediately. I will make the prediction here and now that these commonplace direct lighting fixtures, with their encirc-

ling bands of spotty, sign-like bulbs, will be replaced by something more appropriate and beautiful, and more in keeping with the architectural expression of dignity, and simplicity which characterizes this corridor.

Opposed to the crude conventionality of these fixtures are the signal lights denoting the approaches to the elevators, offering a radical departure from the regular, "illuminated sign" with its utter vulgarity. Hanging from chains, yet without suggesting in the slightest degree the commercial fixture of the indirect or "semi" type these signal-bowls are exquisitely rendered in metal, and the inscriptions on their luminous panels are strikingly decisive, and quite lacking in the spotty, illegibility of the conventional "transparency." The indirect lighting of the main corridor ceiling is effective, but extravagant, owing to the "trough" or "gutter pipe" continuous reflectors, involving the use of tubular lamps. Individual lamps with individual reflectors would have produced the same effect at a greatly reduced cost of installation, operation, and maintenance.

The lighting of the stairs and corridors is purely conventional as to fixtures, and their placement, but the lighting glassware is of a much better variety than the junk usually purchased by the ton for buildings of this type. The glass transmits about as much light as it reflects, and is of a sufficient density of opal to eliminate glare from light transmitted horizontally. Of course no glassware which does not entirely enclose the lamp, can prevent it from being a source of annoyance to the eye unless the tip of the bulb is frosted, and the lamp itself placed well up, within its shade. It is to be regretted that a fixture finish offering such a decided contrast to its background was used at the stair landings. Unless a fixture possesses attributes of unusual beauty which are thoroughly in sympathy with its decorative environment there can be no possible excuse for its accentuation. Consequently the emphasis of a dark-finished, purely commercial wall bracket, against a marble wall, is utterly incongruous, and grotesque.

Deserving of special mention are the small illuminated signs in the corridors, designating office locations and stairs. These employ the only new idea in sign lighting since the year 1880, and eliminate all glare, and visibility of source, in addition to giving an area of perfect luminous uniformity, with absolute legibility. The use of a raised, convex, white letter, specially embossed, against a depolished black ground is thoroughly effective. The lighting of the various offices throughout the building where the so-called "semi-indirect" lighting is employed offers nothing new in the way of application. One of the most fundamental and academic features of lighting which does not interfere with architectural expression is that the fixture itself shall be subordinated, and non-obstrusive. Consequently when cheap, commercial fixtures must be used it is desirable to neutralize their offensiveness. This can always be accomplished by applying fixture-finishes which harmonize and blend

with ceiling tints, thereby eliminating unpleasant contrasts. A striking example of this sort of thing is afforded by the lighting of the barber shop, where amid white surroundings, the "semi-indirect" bowls are quite inconspicuous, whereas their supporting stems are very noticeably "brassy" and obtrusive.

If the architect would give the same attention to lighting that he gives to other problems of comparatively minor importance better results would be obtained, and the continual and expensive "changes" which begin as soon as any big building is completed would be eliminated. Some architects are beginning to realize this, and insist upon drawing their own lighting specifications (with sketches), which are then given to not one but several fixture and glassware manufacturers to figure on. This plan positively eliminates the sloppy, hit or miss methods which prevail generally to-day, and insures satisfactory lighting of permanent value.



THE BARBER SHOP IN THE BASEMENT.

Interior Contractors: The Chisholm Co.
Barber Chairs: Koken Barbers' Supply Co.
Plumbers: J. N. Knight & Son.

O'Brien's Liquid Velvet Wall Finish.
Painting and Decorating: W. P. Nelson Co.
Mirrors: Jacques Kahn.



BOOTHS IN THE BARBER SHOP.

Wedgwood Panels: Josiah Wedgwood & Son, Ltd.
 Barber Chairs: Koken Barbers' Supply Co.



TYPICAL TOILET ROOM.

Plumbers: J. N. Knight & Son.
 Brass and Iron Fittings made by McNab and Harlin Mfg. Co.
 Chicago Spring Butts. U. S. Expansion Bolts.
 Closet Seats: Patterson-Kiser Seat Co. Mirrors: Jacques Kahn.

THE MECHANICAL PLANT OF THE EQUITABLE BUILDING

In the sub-sub basement, the main power plant is located. This consists of a battery of seven Heine boilers, two of 550 and five of 450 h. p. They are hand stoked and operate on natural draught, the main flue being 10x10 feet square. The boiler feed is provided by two outside end packed Worthington compound 12x18-10x18 pumps. In addition to these, there is a high level tank which supplies water at 265 pounds pressure from which the boilers can be fed direct. The registered boiler pressure is 160 pounds.

For steam distribution there is a header at the back of the boiler, divided into four divisions, two boilers each are connected into three divisions and one boiler into another division. The four main engines are connected each from one of the four divisions of the header. In addition, there is a loop connecting with division 1 and division 4 of the header. From this loop, steam is supplied to two of the main engines and all of the pumping machinery, ice machinery and subsidiary steam driven machinery of the power plant. The feed line is doubly connected so that it can be supplied either from division 3 or division 4 of the header. There are six main engines directly connected to generators for electric power. The generators are 3-600 K. W., 2-300 K. W. and 1-200 K. W.

The space allotted to the power plant impresses one as being ample, the machinery is not crowded and is accessible.



"KOPPEL" SINGLE SIDE DISCHARGE CAR FOR REMOVAL OF ASHES.

This is quite unusual in building power plants which usually are crowded to the utmost. Yet there is no waste room and it is soon apparent that every device to economize handling has been employed.

Upon the Nassau Street side, near the sidewalk, are located the coal pockets having a total capacity of about 2,000 tons. Coal shoveling is almost eliminated as the coal is dumped from the wagon in the street into the pockets and run from chutes into steel handling cars for deliv-



"KOPPEL" SQUARE BOX TYPE FUEL CARS.

ery to the fire room. A plan of the boiler room shows the particulars of this system.

Coal and ash transportation must be devised that will fully care for the carrying of fuel and in addition occupy little of the space permanently.

In addition ruggedness of construction, flexibility, low maintenance cost, safety, moderate first cost and small power needed for operation, are demanded of the distributing system.

The track system devised for this plant takes in a total of one-tenth of a mile of track. This track consists of checkered cast iron plates which are provided with grooves spaced 21½ inches apart, in which the wheel flanges run.

The track plates form part of the floor, inter-locked with each other and have anchors which hold them firmly in the concrete and provide an indestructible floor and track surface.

The switches and turntables are made

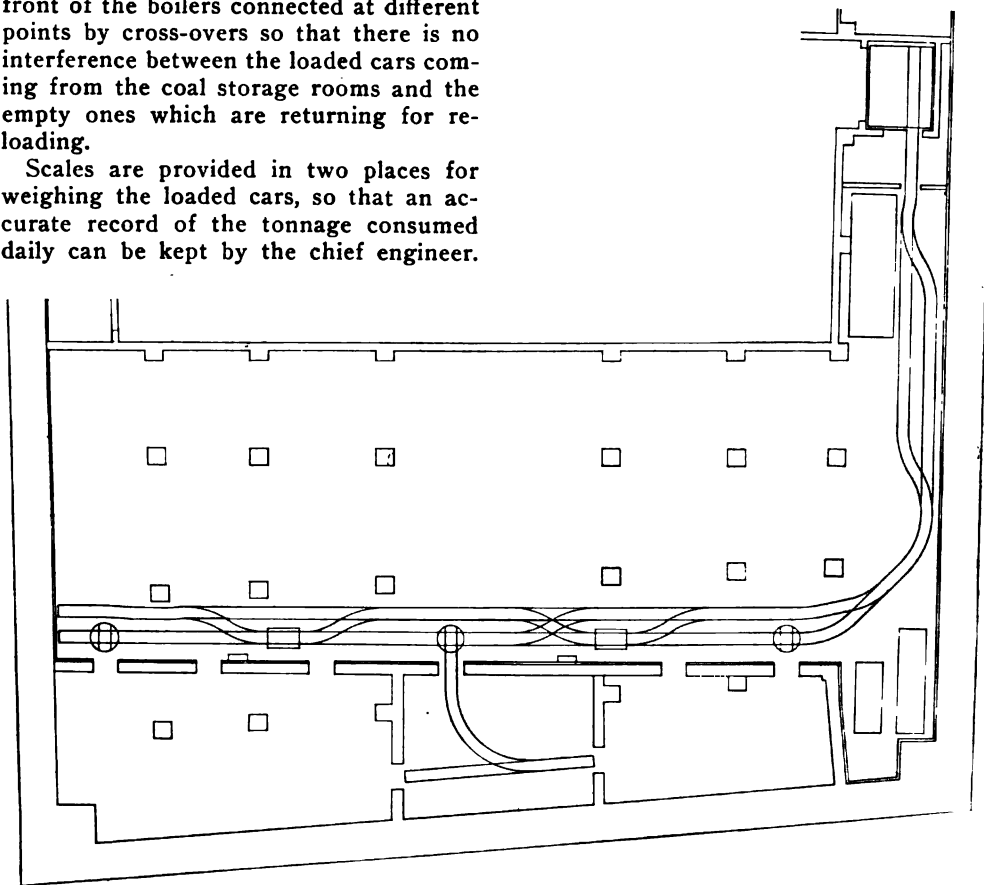
in the same manner, the turntable tops resting on polished steel balls which run in machined races. The ruggedness of this track system is apparent from its anchorage in the concrete floors, and practically eliminates any expense of maintenance.

Two parallel tracks were provided in front of the boilers connected at different points by cross-overs so that there is no interference between the loaded cars coming from the coal storage rooms and the empty ones which are returning for re-loading.

Scales are provided in two places for weighing the loaded cars, so that an accurate record of the tonnage consumed daily can be kept by the chief engineer.

special type flexible running gear with cast steel wheels and roller bearings, which permit them to be operated with the same expenditures of power on both straight track and curves.

Ash cars, built especially for this building, are one side discharge cars with sloping bottom and lift door, all steel con-



PLAN OF THE BOILER ROOM, SHOWING TRACK LAYOUT FOR COAL AND ASH HANDLING.
Coal Handling System: Orenstein-Arthur Koppel Co.

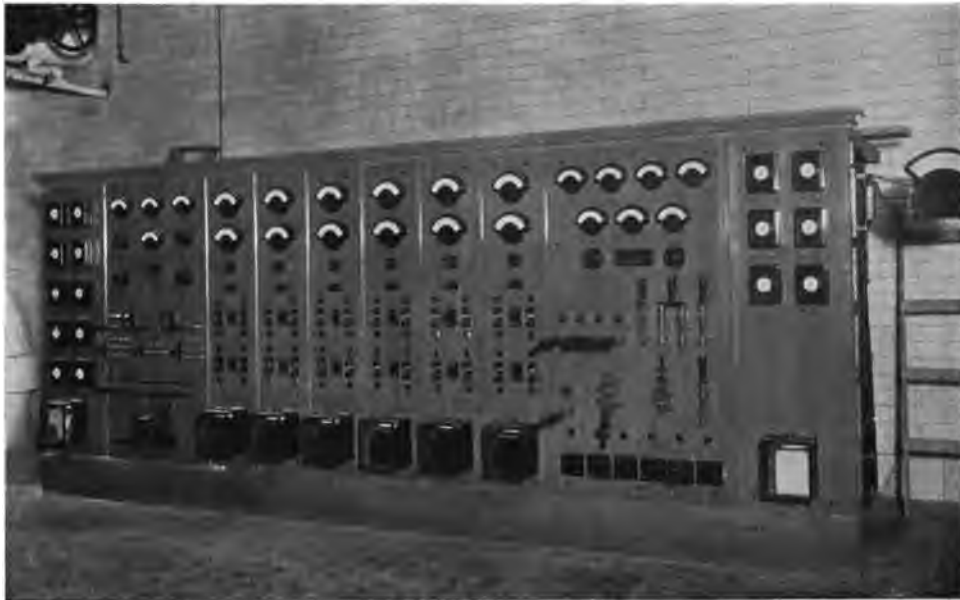
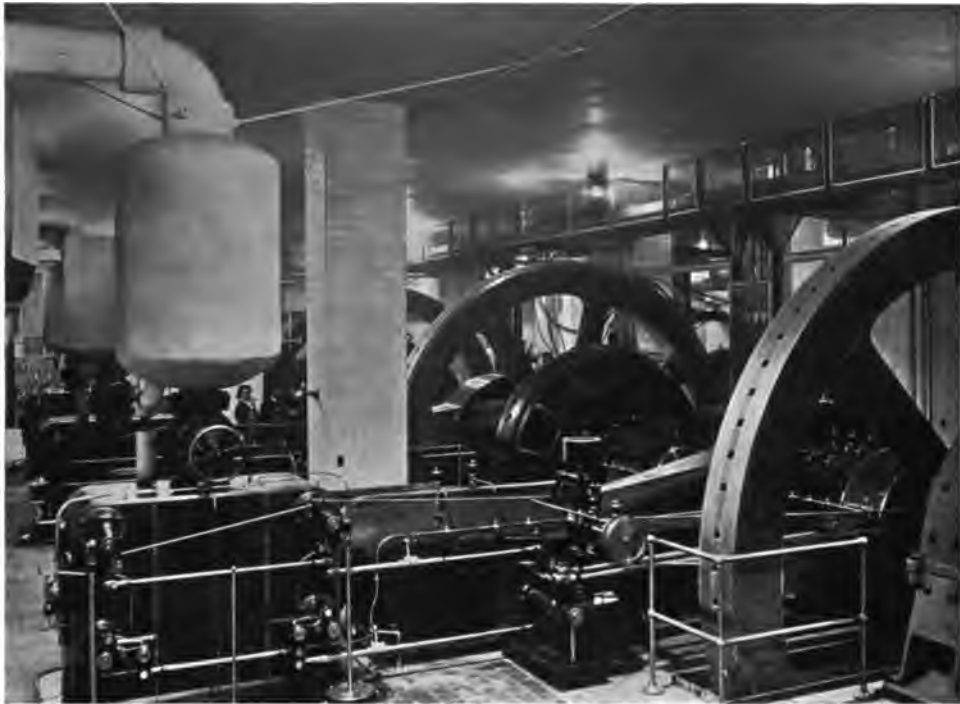
At the right side of the layout, a track leads to the elevator on which ash cars are hoisted up for emptying. A turnout is provided in this track to permit the passing of the loaded and empty cars.

In the construction of the ash and fuel cars, special care was taken to protect the power plant workmen from injury. The cars were built so as to avoid sharp corners, knobs taking the place of the square joints at each of the four top corners.

The cars are all of 40 cubic feet capacity and are equipped with the "Koppel"

struction. To eliminate the expense and delay of handling the ashes, these cars are provided with a flexible chute. The track is so located on the conveying elevator, shown in the diagram, that when the elevator is raised above the level of the floor, the chute is let down and the ashes discharge directly into a wagon outside the building.

The fuel cars are a standard square box type with doors on one side arranged to drop to permit the easy handling of coal by the stokers.



THE ENGINE ROOM AND SWITCHBOARD.

Switchboard: Metropolitan Electric Mfg. Co.
 Engines: Providence Engineering Works.
 Simcore Wire: Simplex Wire & Cable Co.
 High Pressure Steam Piping and Fittings: The M. W. Kellogg Co.
 Carbondale Refrigerating and Ice Making System.
 Brass Tubing for hot water lines: The Baltimore Tube Co.
 Asbestos Pipe Covering: Robert A. Keasbey Co.
 Conduit: National Metal Moulding Co.
 Devco Black Flexile Paint.

This car and track system was built by the Orenstein-Arthur Koppel Co.

The Providence Engineering Works made the main engines for the power plant. The refrigerating plant and ice making machines were made by the Carbondale Machine Company. The main switchboard was made by the Metropolitan Electric Mfg. Company. The conduit for the electric wiring was supplied by the National Metal Molding Company. "Simcore" electric wire supplied by the Simplex Wire and Cable Company was used.

The M. W. Kellogg Company supplied the high pressure steam piping and fittings and the Robert A. Keasbey Company supplied the asbestos pipe covering. All the hot water lines are of brass tubing and this was furnished by the Baltimore Tube Company.

The Jas. G. Wilson Mfg. Company supplied rolling steel doors which enclose shaft openings and the copper ventilators on the roof were made by the Globe Ventilator Company.

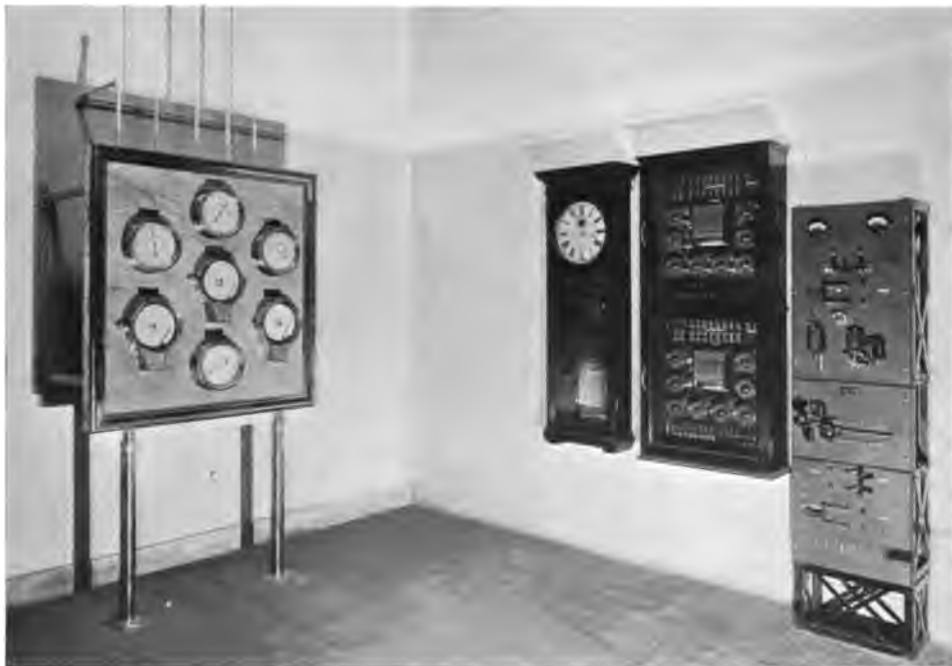
The plumbing contract was held by J. N. Knight & Son and the brass and iron fittings for steam lines as well as plumbing were supplied by McNab &

Harlin Mfg. Company. The closet seats were made by Patterson-Kiser Seat Company and Chicago spring butts were used on all toilet doors.

The automatic sprinkler equipment of the building is largely sub grade. It may generally be stated that it covers all the working portions of the building, such as the storage rooms, kitchens, janitor's quarters, etc. The entire third floor is sprinklered and in the kitchen of the Bankers' Club there is a sprinkler equipment. This work was all installed by the Globe Automatic Sprinkler Company.

A complete electric clock system has been installed throughout the new building by the Self-Winding Clock Company of New York. This is completely noiseless in operation, maintains uniformity of time throughout, and has accuracy and dependability assured through the transmission of Government time signals as furnished over the lines of the Western Union Telegraph Company from the Naval Observatory at Washington, D. C.

This equipment consists of a master clock equipped with mercurial compensating pendulum, and various secondary clock units distributed throughout the many suites of offices, so that each and



ENGINEER'S OFFICE, SHOWING GAUGE BOARD, MASTER CLOCK AND FIRE ALARM SYSTEM.

Clock System: Self Winding Clock Co.

Globe Automatic Sprinkler System.

Gauge Board and Equipment: Schaeffer & Budenberg Mfg. Co.

every tenant may enjoy the benefit of positively accurate time.

A sixteen circuit control panel installed adjacent to the master clock operates the various secondary clocks throughout.

This control panel is equipped with two powerful, circuit closing transmitting devices which send electric impulses over the various secondary clock circuits once every half minute. This panel is arranged to control the secondary clocks in multiple with 50 clocks on each circuit at present, or a total of 800 clocks. However, the control panel is so designed that it will also operate on a 50 per cent. overload, making a maximum capacity in this plant of 1,200 clocks.

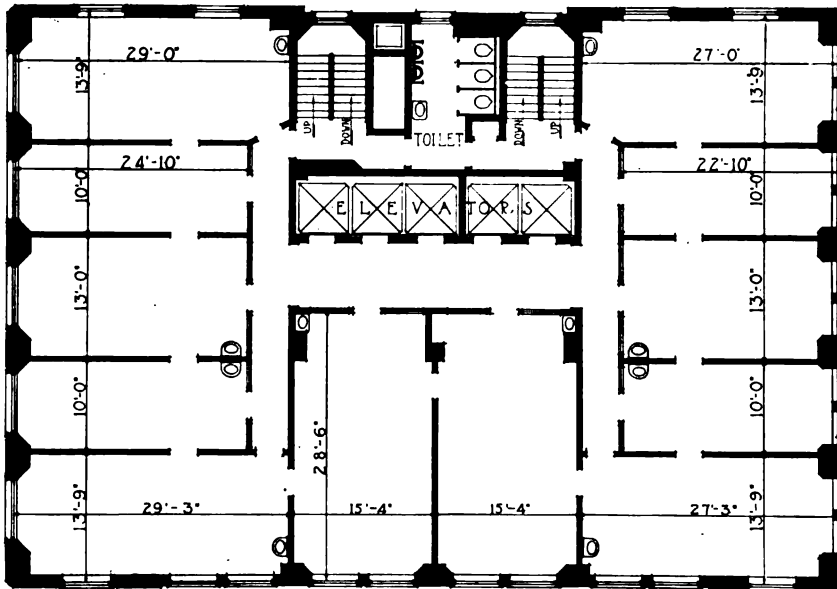
The entire system operates from a 24 volt central storage battery installed in duplicate, so that while one set is in operation, the other may be charging without interruption to the clock service. The various secondary clock units operate from an impulse mechanism of simplest character, with neither springs nor pawls, and the mechanism is entirely

silent in its operation, requiring practically no attention after installation.

In each one of the four stair towers, there is a 6-inch standpipe with hose and reel at each floor. There are 25,000 feet of "Rendein Underwriters'" unlined linen fire hose of 1½ inch diameter used in the building. This linen hose is time tried and is reliable for interior protection. The hose was supplied by Charles Niedner's Sons Company.

The barber shop which is at the rear of the basement is a large one containing twenty barber chairs and a complete equipment for manicuring, chiropody, dressing rooms, etc. The interior contractor for this work was the Chisholm Company and the barber chairs were made by the Koken Barbers' Supply Company. In decoration, the room is in cream white with tile floor, walls and mirrored panels. An ornamental feature is the use of small Wedgwood panels about the booths and offices. The mirrors here and in the toilet rooms of the building were furnished by Jacques Kahn.





DETAIL OF LOWER STORIES AND PLAN OF OFFICE BUILDING AT 8 WEST 40TH STREET,
NEW YORK.

Builders: George A. Fuller Co.
Terra Cotta: Federal Terra Cotta Co.
Evan's "Crescent" Expansion Bolts.
Chicago Spring Butts.
Brooklyn Vault Lights.

Starrett and Van Vleck, Architects.



OFFICE BUILDING AT 8 WEST 40TH STREET, NEW YORK.

Builders: George A. Fuller Co.
 Plumbing Contractors: W. G. Cornell Co.
 Terra Cotta: Federal Terra Cotta Co.
 Metal Windows: Hecla-Winslow Co., Inc.
 Stanley Ball Bearing Butts.

Starrett and Van Vleck, Architects.



OFFICES IN 8 WEST 40TH STREET.
Starrett and Van Vleck, Architects.
Mefcolite Semi-Indirect Fixtures: H. G. McFaddin & Co.
Painting and Decorating: The Barker Painting Co.

OFFICE BUILDING, 8 WEST 40TH STREET

STARRETT & VAN VLECK, Architects

The new office building at 8 West 40th Street is built upon a lot approximately 60 x 90 feet and rises over 20 stories. Its finish in gray face brick with trimmings of terra cotta is attractive, but the feature of the exterior design is the finish of the top. The architects, Starrett & Van Vleck, have departed from the usual overhanging cornice and built a pyramid. The upper stories are effective from the standpoint of design and offer no obstruction to the natural light.

In plan, there are two stores running the full depth of the first story with the main entrance at the centre. The entrances to the stores are inside opening from the main corridor of the building. This corridor extends about two-thirds of the depth and upon it open the five elevators which serve the upper floors. The typical plan of the upper stories divides the floor area into twelve offices. The space behind the elevators contains

two stairways enclosed in fire towers and a toilet room on each floor. The illustrations show one of the undivided stories. The columns of the building are grouped in the centre of the area and the bays are of wide span, so that an undivided story is an uninterrupted area free from columns.

The building was erected by the Geo. A. Fuller Company and the exterior terra cotta was supplied by the Federal Terra Cotta Company. The windows are of the Austral-balance type made by the Hecla-Winslow Company, Inc. The interior finish throughout is in flat oil wall tints and the work was done by the Barker Painting Company.

An interesting type of lighting fixture of the semi-indirect pattern is installed. This device is simplicity itself and is designed specially to use the high intensity modern electrical lamps. These fixtures were made by H. G. McFaddin & Co.

ELKS' LODGE, BROOKLYN, N. Y.

H. VAN BUREN MAGONIGLE, Architect

The brick facade of the new Elks' Lodge in Brooklyn is sparingly but pleasingly ornamented with terra cotta. This building, with its high stories and intervening mezzanines, is approximately six full stories high. The main facade shows the four principal divisions, while upon the side the mezzanine stories are marked by their window openings. The lodge room is very simply treated in ornamental plaster without colored ornamentation. Equally simple is the handling of the two-story lobby and the main en-

trance. There is more warmth in the decorative schemes of the restaurants, but still there is no attempt at elaboration.

The contractors who supplied material were the South Amboy Terra Cotta Company; T. A. O'Rourke, Inc., ornamental plastering; American Flooring Company, Inc., the plastic linoleum floors; Jason Moore & Co., Inc., painting and decorating, and the Simes Company, lighting fixtures. S. Karpen & Bros. made the furniture, and the china was supplied by Abraham & Straus.



ELKS' LODGE AT NUMBER 22 OXFORD STREET, BROOKLYN, N. Y.

Terra Cotta: South Amboy Terra Cotta Co.

Star Expansion Bolts used.

Stanley Butts used.

Bommer Spring Hinges.

Barrett Specification Roofing and Waterproofing Materials.

H. Van Buren Magonigle, Architect.



LOBBY AT ENTRANCE AND THE LODGE ROOM, ELKS' LODGE, BROOKLYN.

Ornamental Plastering: T. A. O'Rourke, Inc.
Lighting Fixtures: The Simes Company.
Furniture made by S. Karpen & Bros.



DINING ROOM AND CAFE IN BILLIARD ROOM, ELKS' LODGE, BROOKLYN.

Plastic-Linoleum Floors: American Flooring Co., Inc.

Painting and Decorating: Jason Moore & Co., Inc.

Diamond Door Hangers.

China: Abraham & Straus.

Ornamental and Plain Plastering: T. A. O'Rourke, Inc.

H. Van Buren Magonigle, Architect.

June, 1915

ARCHITECTURE AND BUILDING

Engineering
Library
Strict Neutrality
By Theodore Starratt

GENERAL LIBRARY
JUL 13 1915
UNIV. OF MICH.

Temperament
By Tom Thumtack

"Yama Shiro"
By Franklin M. Small

Church Lighting
By F. Laurent Godinez

Detail Plate

Small Houses

Many Illustrations

Published by
The William T. Comstock Company
New York

20 c. a copy.

\$2.00 a year.



"Globe" Ventilators

combine highest efficiency with strength and durability.

Made in heavy galvanized iron, copper and Toncan metal and with glass tops when desired.

Send for Model Demonstrating Operation

Globe Ventilator Co.
Troy, New York



STUCCO Made With



IS Waterproof & NON-CRACKING



Send a Postal for Book 91

The Standard Paint Co. New York
Boston
Chicago

Capital, \$5,000,000.00



You Choose
Wisely When
You Select
"F-S" Products

You make no mistakes in specifying our "Pioneer" Paste Wood Filler and Stain combined for open-grained woods, and our "Model" Liquid Wood Filler for close-fibred woods. They are prepared under methods found during fifty years' experience.

FELTON, SIBLEY & CO., Inc.

Manufacturers of Colors, Paints and Varnishes since 1863

136-140 North Fourth Street,

Philadelphia

(114)

ARCHITECTURE AND BUILDING

A Magazine Devoted to Contemporary Architectural Construction

WILLIAM P. COMSTOCK
Managing Editor

THEODORE STARRETT
Contributing Editor

Volume XLVII

JUNE, 1915

Number 6

It wouldn't do to take sides in this war among architects, builders, subcontractors and mechanics that has been going on now these many years. Strict neutrality is the watchword with respect to all that gets into print. Polite denial and disclaimer from the builder who wants to control architect, engineer and all the various professions and trades which contribute to the making of the finished product.

The architect, of course, being a privileged character, can and does rage and fume in some of the journals devoted to professional ethics, but he who so rages is not the one that gets the jobs, or to say it in polite language, the commissions. No, the architect who saws wood and builds up a business in which the artists are kept in little stalls along with the other draughtsmen, for all the world like horses in a stable—the business architect, in other words, can and doubtless does tell his clients that he is the builder, that he knows the builder's game and the builder's nature, and knows him for a useless member of society. He can relegate the builder to the scrap heap and damn him from supper to breakfast and no one dare say a word.

Why this is, is not very interesting just now. What I was saying is that in the Merry War of competition it is advisable to be neutral and above all things keep out of the fight yourself.

Last month's essay on the man who was beloved by architects because he could (and did) take his medicine so nicely started some one going, for he sent to the editor of this magazine a poem which

seemed to me to strike the nail square on the head. A strong impulse seizes me to publish it. A few colloquialisms, however, seemed to mar an otherwise perfect specimen of builders' poetry so I have taken the liberty to change it slightly with no apologies to the poet.

Just who the author of the original was is not stated. Possibly it was a syndicate. It is here printed for the edification of any that may happen to feel disposed that way. It is entitled:

A SAD REALITY.

Said the architect to the builder,
Heaving a mighty sigh,
"I'd like to give this job to you,
But, Great Scott, man, you're high."

"Oh, never mind," the builder said,
"I'll take it anyway.
Just cut off what you think is right,
I'll make the suckers pay."

The subs came flocking to the job
Like flies about a pie,
Each one was told by the builder bold
"Great Scott, man, you're too high."

So he took their hide, he picked their bones,
He pumped their life blood dry.
They furnished the money, brains and skill,
He furnished the azure sky.

And when they got all through the job
He soaked them ten per cent
For carting rubbish, watchman's time
And super-in-ten-dent.

Just a bit of airy persiflage to lighten the day's load. No harm done, it is hoped. Just a little thought of an exception to the general rule of profitable contracting in these exciting times.

Some great mathematician used to amuse himself by proving that

something was equal to nothing. Figures won't lie, you know, and he could prove first that a horse was nothing and a cow was nothing, therefore a horse was a cow.

It all depends on whose ox is gored. I could prove that architects were the only people that had any right to existence in the building game. Or I could prove that builders were the only ones. I could go still further and prove that the subcontractors were the only people that knew how to build and that builders and architects both were warts on the body politic and should both be eliminated.

But all of them are necessary; the architect to design, the builder to manage, the subcontractors to fight the mechanics to keep them from spending too many hours on the job—polite language, work—at seventy-five cents an hour and under.

I have said all this before, but I am not sure that everybody in the United States has heard. In fact I am rather afraid my light is still "hid under a bushel."

Perhaps some one from the ranks of the builders will send in a poem in which will be told, in good jingling rhyme, what happened to the building that had no builder.

It would be too much to expect that any architect would take a hand in the unseemly contest.

Theodore Starrett.

ARCHITECTONICS

TEMPERAMENT by Tom Thumtack



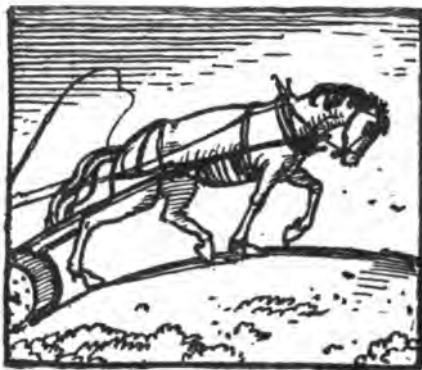
Did you ever see the Blue Mouse? If you have you'll remember, but if not you'll now learn that the little lady who is the Heroine or Head-liner explains everything by the one claim, "It's my temperament." She has much to explain and from her face and her figure you conclude that "Temperament" is right. "It's my temperament," is my own defence for architectural offenses.

Why do I have friction with clients? I'm good, old Tom Thumtack to everybody I don't work for. I'm popular in all my clubs, and I'm president of the Ananias Club. I have a fellow feeling toward all mankind. I love my wife, why I even have to be careful not to love other men's wives. One election night I felt this great fellowship so keenly that I shook hands with everyone I met and held some of them as long as they would let me, and ended up the evening by weeping because the poor old pencil-lady at the foot of the elevated was so very blind. Next day I didn't remember just who was elected but you can see I'm friendly. Why should I have trouble with my clients?

I am not of a grasping disposition. My office doesn't make nearly the money it earns. I never stick a client for extra work and I stick

to my contract. I make more trips of superintendence than my arrangement calls for and I am in dead earnest in the interests of my buildings. I spend money to the jeopardy of my profits in the study of my architecture and I have more than an ordinarily good reputation for architectural success. I eat, drink and sleep my profession. Yet I have friction with clients. Why do I have all this trouble? It's my temperament.

Why am I an architect? Is it because I deliberately looked into all the vocations and professions and found the one in which I could



make the most money? Is it because I hunted up all the people for whom I could work and decided that I was best fitted to deal with the ladies? Was it because I was curious about putting things together and felt called by construction? Was it because I felt that I was a good buyer and chose to buy for other folk big things like houses? Was it because I had a methodical brain and was a demon for detail? No! It was because I wanted to draw, and to dream and to feel. I was ambitious to add to the beauty of things and to deal in the beautiful. I chose my profession because it's my temperament.

Have you been to the Horse-show? Some day just put blinders on one eye, on the side toward the boxes and take a look at the horses. So that you won't lose anything by taking this advice, I'll tell you that in the boxes are well-dressed and beautiful ladies but you can see just as beautiful clothes in shop windows with no ladies in them to distract you and just as beautiful girls on the stage unclouded by raiment. Fifth Avenue and a matinee will give you all the sensations of a horseless horse show so that after dinner you may put on the blinder and go to the ladyless Horse-show without losing a throb.

You'll see two kinds of horses: Big, quiet, powerful perchons, then racers and jumpers. The big fellow wears a thick collar. He lowers his head, spreads his feet, starts two tons and keeps quietly

pulling. He'll do it today, he'll do it tomorrow and as long as he lives. If you whip him he'll switch his tail.

But glance at the racer; in a sweat as soon as he's started, blood in his eye and his legs all a-tremble, living on nerves and excitement, eaten up with ambition. He'll race as long as he breathes and quit only with death. But strike him and he'll bolt and brain you. Put him in the thick collar, load him up to the limit, he'll be off with a scramble, he'll fight for an hour and then drop. Keep him at it a month and you'll kill him. Why doesn't he make a good draft horse? He's too temperamental.

I profess architecture. I chose it because I could draw, because I worshipped the beautiful and was ambitious to create and perpetuate beauty. I continue to practice because by so doing I realize my ambitions of beauty. I'm a race horse. But what do I find it involves? I must deal with the ladies! I must show how to put



things together! I must buy by the thousand! I must detail! But I perpetuate beauty and because this is so I'll cheerfully do all the drudging, I'll faithfully throw my light weight in the collar and strain at the too heavy burden.

I'm working for you, Mr. Client, because, besides bread and butter, you're a means to this end. Also, I do it because you're my friend and because I've put my name to your contract to do so. I'll not shirk any part of the matter. I'll joyfully race and dray honestly. I'm a winner at racing. I can show you a room full of blue ribbons. But I'm not so much of a dray-horse, in fact, to be perfectly honest, a mule could pull my very shoes off easily. Now, Mr. Client, you're what the world calls a success and you ARE a success. You get up at the same hour every morning, have your tub and your breakfast, catch the eighty-thirty and get to the bank on the minute. Why your desk proves that you're a wonder, mahogany, glass top, brass ink-well, pad and pencil, order and neatness. Your mind is like a mechanical adding machine, your brain a cash register, you've the

health of a prize-fighter, the digestion of an ostrich and there isn't a nerve in your body. You're a wonder on system, if you weren't you wouldn't be president. You chose your calling to make money and you've made it and you're going to keep on making it. You give your depositors just exactly as much as you have to, lend their money on just the same principle. "Have to be careful with other people's money." Oh, I know all about it, I've heard it myself when I wanted a loan from your branch up near my place. You're a great big splendid success, the bulwark of our country. I'm not bitter, I really admire you, I admire you just as when I was a baseball player at college I could see nothing in athletics but football. But you're a draft horse just the same, and being a draft horse you're an excellent judge of draft horses, but that poor Johnnie who just left with his scheme for reclaiming the Jersey meadows, he's a racer. "Couldn't see anything in it." I know that but you're not a keen judge of racers.

Going to build a house? Now let me tell you, Mr. Client, use all your business acumen in the selection of your architect. Don't get a man who is going to give you what you don't want. If you hire me, you and I will get along beautifully while the sketches are in progress. I'm a race horse and that's where I'm racing. I'll give you the rooms you want and I may give you a lot that you don't realize you're getting: a house with poetry, a poem of environment; with music, the cadences of harmony; with charm, the charm of homeliness and with personality, a little of my own, some of myself. You may not have reckoned this on your side of that iron-clad bargain you hammered out for me to sign. It may all of it be full measure running over whatever you required of me, you may not want it even, but we'll get along together famously as long as I am racing but that won't be very long. After the heavy harness of building is strapped on me, then I'm only a draft horse, and that's the long part of the pull. I'm a draft horse? Why, just look back a line or two, there I called you a draft horse also. We are both draft horses now and you, by birth, training and experience are far the better horse. You soon get a line on my shortcomings. At first I had you dazzled by the way I could put a pencil to paper. Now you have my number because of the way I bawl out a contractor. You know how to do that to perfection. Push the button, "Send Jackson in." "Jackson, you're an imbecile! Look at those figures. Mistake of five cents in one column. You did the same thing last month. Get your time, you're fired!" Now Tom Thumtack and aforesaid contractor. "Say, Mr. Stark, I really can't have these walls out of line, you know. Really you must be more careful in the future!"

Now if you didn't want anything but a certain number of livable rooms and a perfect piece of construction, don't you see that I've given you what you didn't want in good measure and have fallen down where you were most concerned and best able to be critical. And when you criticize me, it gets under my skin and rankles. I feel that fundamental merit is overlooked and that you magnify the trifles. I'm no longer easy and natural with you and this starts

strained relations. Why, really you get along better with the builder who blocks all your talk on his thick epidermis. I begin to dislike you. It's my temperament.

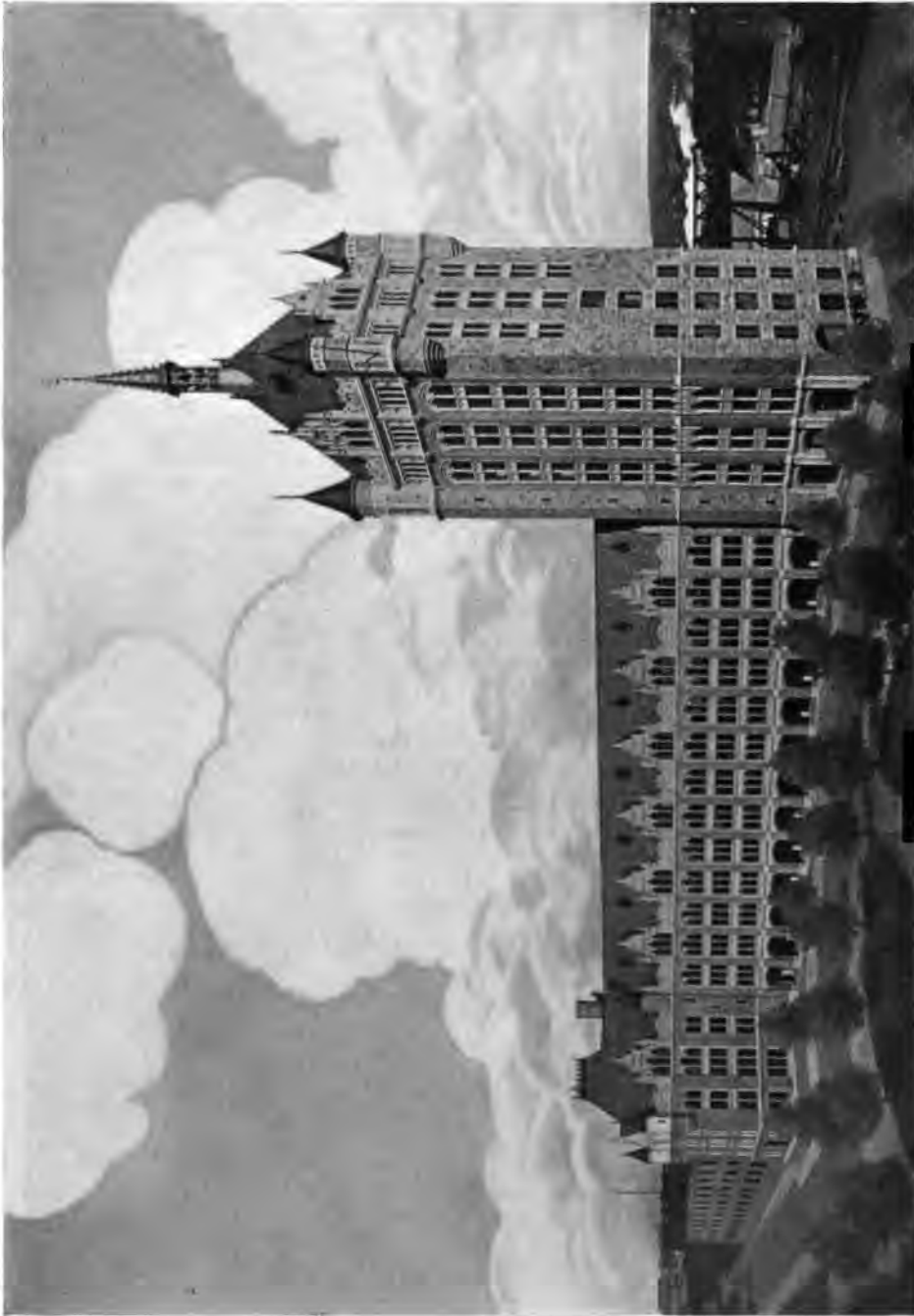
There are lots of architects whom you could employ who haven't any temperament; who grew up out of office boys or cut in from engineering offices or butted in from being builders. They can't design but they can organize and superintend and they'll give you a good business administration. * * * I'm surprised to find that you do want a beautiful dwelling, that your wife and daughters demand it and that way down in the bottom of your heart covered by a layer of fat, a fancy waistcoat and gold watch-chain, you'll like it yourself when it's done. You're a good business man and you say you want both art and administration in your house and that there's no way of getting both if you take a man who can't start the job right with art and who can only administer an artistic aberration. You want me to talk frankly with you so that you can get all there is out of the house building game. Well, let me go to confessional. I'll tell you the truth, I went into architecture because I was an artist, and now I'm an architect in the sense that I'm a specially trained artist in building. I'm not a good superintendent. I superintend because I have to and that's the truth of it. If your fee would allow it I'd hire a practical Johnnie to do superintendence, and leave construction to him. But your pay wouldn't stand it.

"Well, Thumtack, that's frank. Now I'll ask a bald question. What will it cost me to keep the practical Johnnie on my job till it's finished? Just my job, mind you, not a new man for all the other work in your office."

"Why, thus-and-so, Mr. Client, I'd pay it myself if I could but I spend so much trying to give you a perfect design that there's none left for the expert on construction."

"I'll foot that bill for the practical Johnnie," says Mr. Client. "I want both of the horses and I won't put my racer to carting."





OFFICE BUILDING FOR THE DELAWARE & HUDSON CO., ALBANY, N. Y.
 Builders: J. Henry Miller, Inc. Otis Elevators.
 Cast Stone Trim: Emerson & Norris Co. Evans' "Crescent" Expansion Bolts.
 Hollow Steel Doors: Interior Metal Mfg. Co. Diamond Tubular Ball Bearing Door Hangers, Cutler Mail Chute.
 Marcus T. Reynolds, Architect.



Decorative Metal Ornaments: Wm. J. Kelly.
Colored Lacquering, Gilding and Burnishing: Righter & Kolb.



“YAMA SHIRO”

By FRANKLIN M. SMALL.

Rising from the crest of one of the largest foothills of the Santa Monica Mountains and overlooking the City of Hollywood nestling at its foot, stands “Yama Shiro,” the Japanese villa of Messrs. Adolph L. and Eugene Bernheimer. The buildings and the various roads and approaches cover an area of seven acres on the leveled crown of the knoll, encircled by three bands of concrete retaining walls, which divide the gently sloping terraces from the more abrupt incline of the hill.

The grounds are reached by two approaches, one from the main road at the base of the hill, by means of a long flight of steps, broken into short runs, first by the huge entrance gate, flanked by its characteristic sentry boxes, and beyond that by kiosk-covered resting platforms

spiration prevailed about the latter part of the sixteenth, and the early part of the seventeenth century, when Japanese art, assimilating that of the Chinese and Corean, to which it owed its origin, had



to the lower terrace. A second approach, by means of a private road winding about the hill, leads to a rear entrance gate at the upper level.

The period of Japanese architecture from which “Yama Shiro” drew its in-

reached its highest state of development, with an individuality entirely its own. Enrichments of the most delicate carvings of birds, flowers and water effects, all in wood, and of hand-wrought metal work, covering the intricate and ingeniously arranged structural timbering, supporting the great overhangs of the tile-covered roofs, were some of the characteristics of this period.

The chief aim in the design of “Yama Shiro” has been, while following closely, both in plan and detail, the best models



INNER COURT LOOKING SOUTH.



INNER COURT LOOKING NORTHWEST.

Decorative Metal Ornaments: Wm. J. Kelly.



FRONT ENTRANCE HALL LOOKING NORTH.



LIBRARY.

of its type in the Orient, to sacrifice nothing in the way of modern convenience and comfort. The main building is 116 feet square in plan, with a sunken inner court forty feet in either direction. All the living rooms open on this inner enclosure, set in the center of which is a splendid example of antique Japanese modeling in the form of a bronze fountain. Bronze lanterns crown the corner posts of the inner porch rail and hang from the corner rafters of the overhanging roofs.

Richly carved "Rammats" (wood panels) run as a frieze over the doors opening on the court, set in between the pilasters which mark the locations of the timber corbelling, which supports the widely extending roof overhangs above. Ingress to the inner court from the outside is gained through three entrances, one on each side, with the main entrance at the front. These same lead to lofty entrance halls, with coffered ceilings panelled with gilded carvings. Painted and richly embroidered panels, set in oak wainscots and framed in wood work carved in geometric tracery and the characteristic "Chinese key," cover the walls. The sides of the walls facing the inner court are constructed entirely of glass in the form of accordion doors which fold back against the cross walls, throwing open the entrance halls to the inner enclosure.

The drawing room and tea room, located at the northern end of the inner court, have several features out of the ordinary.

At the north end of the drawing room is a platform raised about sixteen inches above the level of the main floor and covered with soft Japanese grass matting two inches thick. This is used for the general purposes of a settee. The walls around the platform are covered with a series of painted screens set in lacquered

frames enriched with hand-wrought metal, the whole combination forming a single picture.

At the south end of this room, flanking the entrance door are two "Tokonomas." The "Tokonoma" in the Japanese house is a shrine for worship, and is hung with sacred pictures and images. In this particular case they form small alcoves wherein are placed richly carved cabinets and beautifully embroidered screens.

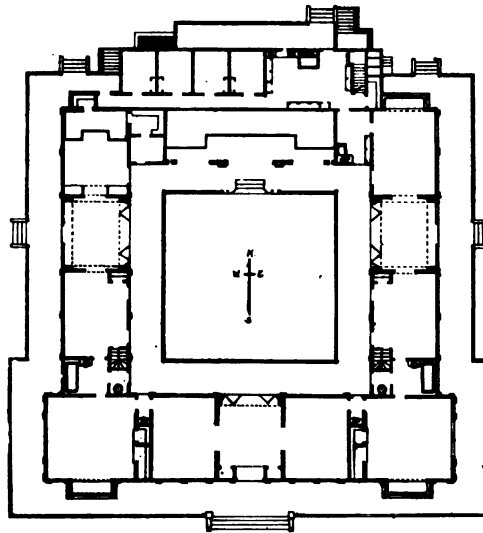
The ceiling of this room is carved in wood in the form of birds, garlands of flowers and water effects, all planted on a ground work of silk, which forms the general decorative feature of the same.

The tea room, thirty-nine feet long, with its coffered ceiling in carved and gilded panels and hand-wrought metal, has its south wall side constructed on the accordion door principle similar to that in the entrance halls, so that in its entire length it can be thrown open to the inner court. The built-in, raised settee, as in the drawing room, is a feature of the tea room.

The dining room, in the northwest corner of the court, is wainscoted in oak from floor to ceiling, the upper panels being beautiful examples of modern Japanese pictorial embroideries.

Fine examples of Japanese carvings are represented in the centerpiece for the lighting fixture and the fowls of the air set in the corner of the silk-covered ceiling. All the art metal work, carving, lighting fixtures, embroideries, painted panels and furnishings were made in Japan.

Concerning the art panels, which had not arrived from abroad when the woodwork was set up, it was necessary to exercise extreme care in dimensioning the spaces into which these same were to be fitted. Due allowance was made for possible variations from the sizes that were sent to the artists in Japan, by making





DRAWING ROOM LOOKING NORTH



DEN LOOKING WEST.



EAST GUEST'S ROOM.



WEST ENTRANCE HALL.



WEST CHAMBER.

TEA ROOM LOOKING EAST.



FRONT ENTRANCE HALL.
LOOKING SOUTH.

DINING ROOM LOOKING NORTH.



Colored Lacquering, Gilding and Burnishing: Righter & Kolb.

these spaces somewhat larger than the panels they were to frame; this also permitted the panels to be firmly secured in place to the backing of the wainscot by small metal clips; a necessary expedient, as the designs of the panels were worked to the very edge, and the use of a stop-mould was not possible. A substitute for the stop-mould was found, however, by the use of a broad surface mould planted on the stiles and rails of the wainscoting and overlapping the edges of the same, and made to act as a frame to the panel, and as a closer to the space between the panel edge and the wood-work.

Difficulties in the construction of the lighting fixtures, an unknown art in Japan, were overcome by the preparation of carefully drawn details, from which the Japanese artisans produced surpris-

ingly successful results. Problems like these were continually arising, and as each one claimed consideration, some means was found to solve it.

Structurally, the buildings are of native woods, and the foundations, porches, retaining walls and outside ornamental staircases are of reinforced concrete. The overhangs of the main roofs are eight feet, supported by a series of corbels and cantilevers extending from the main walls of the building in tiers. The exposed timbering is ornamented with hand-wrought metal work, and the ends of the same, including the ends of all the rafters, are metal-tipped.

Franklin M. Small.

Note: E. D. Tyler built this structure and J. E. Bailey did the concrete work. The Buchanan & Smock Lumber Co. did the trim and Wm. J. Kelly made the metal crestings and ornaments. Colored lacquering, gilding and burnishing was done by Righter & Kolb.



NOOK ADJOINING DINING ROOM.

CHURCH LIGHTING

By F. LAURENT GODINEZ

Many a preacher has been blamed for the eternal drowsiness of his congregation, while the real cause of the somnolence—glaring exposed bulbs—escaped censure. Even the eloquence of a Henry Ward Beecher would pale beneath the glare of an unshaded Mazda lamp, yet the average clergyman is forced to address his congregation beneath lighting which is more suggestive of the bar-room than a temple of worship. The electric lighting of the average church consists of sockets placed here and there promiscuously by some unfortunate contractor who "bid low" and didn't know it. Within these sockets glaring bulbs of the latest type have replaced the carbon lamp with its more subdued and less dangerous influence. The church like every other institution has suffered for the lack of a warning regarding the proper and safe use of modern electric illuminants of high intrinsic brilliancy.

From a physiological viewpoint any unbiased person must admit that the average installation of gas lighting in the average church is entirely inoffensive to the eye, because manufacturers of gas mantles have never advocated the use of bare exposed mantles, and have insured proper usage by selling units complete, consisting of burner-mechanism, mantle and enclosing and diffusing glassware. This is particularly significant when we realize that the intrinsic brightness of a Welsbach mantle is only 50 candle power per square inch vs. the intrinsic brightness of a Mazda lamp which ranges from 1,500 to 3,000 candle power per square inch! Obviously manufacturers of electric illuminants should at least warn the user against the indiscriminate use of such a product, but their neglect to do so explains why such church lighting as above described is so miserable and undesirable.

The correction which applies in every instance where esthetic restrictions are not in force lies in applying diffusing glassware—a perfectly simple and positive method of glare elimination. Has it ever occurred to the reader that the so-called "semi-indirect" system of illumination differs in no way from the basic idea of reducing glare by "covering" or "hiding" a

glaring source from view? The open bowl or dish allows some of the light to escape ceilingward, but that is the only difference. The thicker the glass, the less light transmitted downwards and vice versa. That is the philosophy of glare elimination in a nut shell.

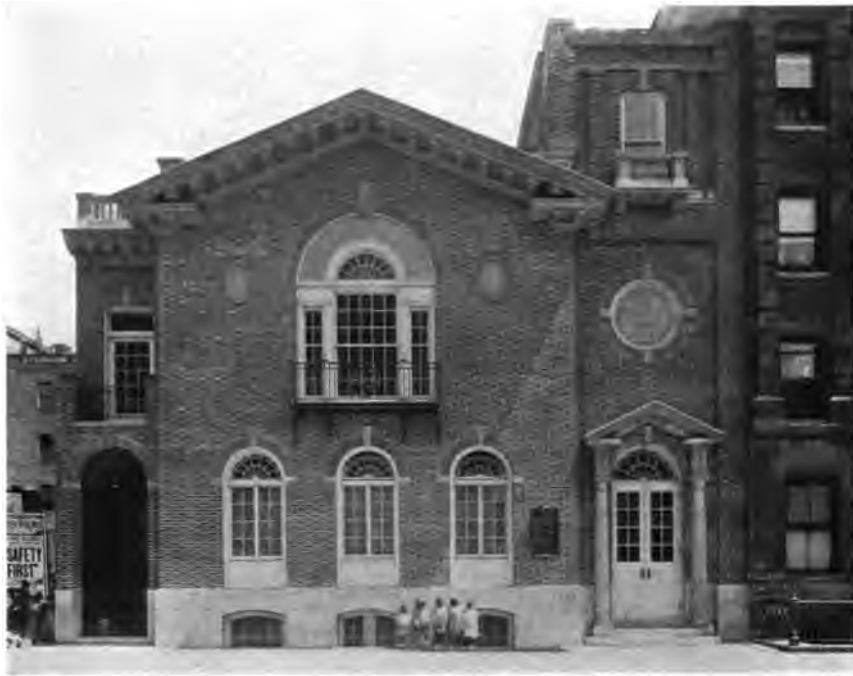
Having dismissed the "average" church—which cannot afford to install new "fixtures" and which is satisfied and grateful to make old conditions enduring, let us pass on to the new building and the old one which is to be "made" new. Here we encounter architectural restrictions which closely affect any plan of lighting. Assuming a condition where it is necessary to use ceiling outlets, because they have been previously "assigned"—we encounter the following problem: Close ceiling fixtures of very commonplace design have been installed. New fixtures are desired. The ceiling is light, and the board of trustees "favor" semi-indirect lighting. There is no ornament in the church, hence an ornamental fixture would be incongruous (truly a fundamental principle but you will find it violated in 95 out of 100 cases). Since there are no decorative conditions demanding fixture conformity—the fixture should be as inconspicuous as possible, and all brassy parts should be blended with ceiling tints. If the ceiling is dark the fixture should be of the same color. With the dark ceiling, however, direct lighting would be more suitable, and one excellent way of making it inconspicuous is to house reflectors within offsets which hide them completely from view, and which are finished without to match ceiling tints. With very low ceilings this plan requires the frequent spacing of units, and the use of small sized lamps. The recent improvements in modern gas lighting are such that it is possible to give exactly the same treatment to semi-indirect systems involving gas as with electricity, and externally no one can tell which illuminant is used. The "semi-indirect" bowl is getting quite commonplace, although it has not yet reached the saturation point of undesirability occupied by the trashy glass shades which are in vulgar usage everywhere.

The illustration presented below is an excellent example of a difficult church lighting problem well solved. The dark ceiling necessitated direct lighting, and the architectural expression of the interior required conformity in fixture design. The fixtures fitted with inner opaque shades which direct all the light downward where it is required, and small auxiliary lamps illuminate the glass panels of the fixture without excessive luminosity. The effectiveness of these fixtures is due to the arrangement and treatment of their light sources. The average fixture manufacturer, even if his designer had worked out the exterior of the fixture exactly like those illustrated, would make the mistake of inserting a group of lamps "bunched" inside the fixture, and the re-

sult would be a glaring spotty affair devoid of character and an actual affront to one's eyesight.

Church lighting requires careful color modulation, a warm mellow light being absolutely necessary for harmony with a religious atmosphere. How often the warm natural light of day emanating from stained glass windows is offset by the garish "daylight" effect of artificial illuminants at night. The author once illuminated a church (temporarily) by placing lights within semi-cylindrical awnings which were lowered over stained glass windows from without, and another (permanently) by a lighting "compartment" which was a part of each window casement. It is effects like these which will distinguish church lighting of the future.





ST. JAMES' PRESBYTERIAN CHURCH, 59 W. 137TH ST., NEW YORK.

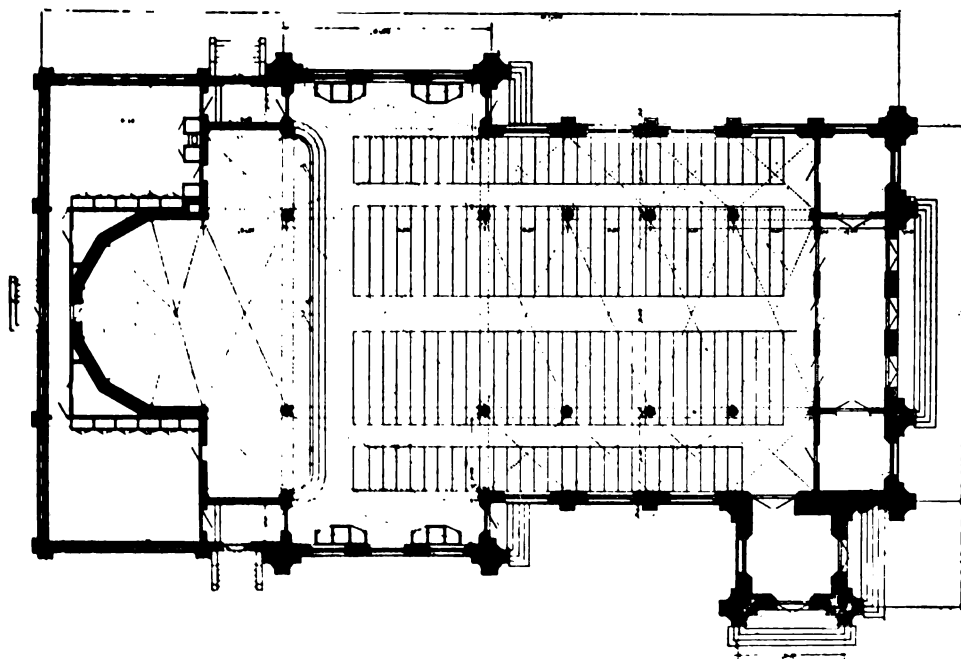
Builders: Miller Reed Co.

Plastering Contractor: T. A. O'Rourke, Inc.

Fireproofing and Cement Work: George A. Dugan Co.

Partitions: Folding Partition Co.

Ludlow & Peabody, Architects.



ST. HENRY'S CHURCH, BAYONNE, N. J.
Ornamental and Plain Plaster: T. A. O'Rourke, Inc. T. H. Poole & Co., Architects.



ST. HENRY'S CHURCH.

Ornamental and Plain Plaster: T. A. O'Rourke, Inc.

T. H. Poole & Co., Architects.



CONCOURSE AND WAITING ROOM. UNION PASSENGER STATION, KANSAS CITY, MO.
Kerite Insulated Wire and Cable Used.
Otis Elevators. Chicago Spring Butts.



UNION PASSENGER STATION, KANSAS CITY, MO.

JARVIS HUNT, Architect

The new Union Station is owned by the Kansas City Terminal Railway Company, a corporation which is owned by the twelve different railroads which enter the station. The station is a part of a \$40,000,000 project to improve the traffic facilities in Kansas City. These improvements consist of the construction of necessary tracks and connections so that all the roads will be able to reach the main station, a new line around the north end of the city to divert the through freight business from the main passenger lines, and the reduction of the heavy grade in the line of the old Kansas City Belt Railway which in the new scheme becomes the passenger line. The grade on this line which was formerly 1.5 per cent., is now reduced to .9 per cent, making the summit about 38 feet below the old grade. In all about 950,000 cubic yards of material have been removed and this has been used in yard grading elsewhere. The changes in street levels by means of new viaducts and subways has been extensive and a decided improvement for the city.

The freight yards will have a capacity of 300 cars and a new freight house of fireproof construction has been erected.

As Kansas City has a population of about 250,000 people, the suburban traffic is for the most part light and the trains are largely through trains. The station facilities are such that 30 trains can be handled in an hour and 260 trains in a day with from 20,000 to 35,000 passengers. The capacity of the main waiting room is 1,500 people at one time. From

6,000 to 10,000 pieces of baggage can be handled together with 2,000 parcels and 250 tons of mail.

In plan the station building is in the form of a T with a frontage on a wide station plaza. The main building is 510 feet long, 143 feet wide and 126 feet high, containing 6 stories, within which is the grand lobby in the centre portion, a room 242 feet long, 103 feet wide and 92 feet high. The ticket offices occupy a semi-circular central space in the interior of the floor in line with the stem of the T. This room is finished in Kasota marble and Travertine stone. At the West end of the grand lobby is the baggage room, parcel room, cab stand, men's smoking and toilet room, barber shop and other departments. In the east end, there is a restaurant, lunch room, women's waiting room, rest room, retiring room, etc. The restaurant is run by the Harvey system, well known for their catering and news service. The main dining room seats 152 persons and the lunch room and lunch counter 250.

The stem of the T in the plan covers an area of 410 feet long and 165 feet wide which contains the main waiting room and track approaches. The main waiting room which has a seating capacity of 750 people on its benches, occupies an area 352 by 78 feet and 73 feet high. On either side of it runs a midway which serves as an approach to and an exit from the trains. On either side of the waiting room are eight train gates which open onto the stairways and ele-



LADIES' REST ROOM AND LUNCH ROOM.

Bentwood Furniture: Jacob & Josef Kohn.
Stanley Ball Bearing Butts.
Evans' "Crescent" Expansion Bolts.



DETAIL OF FACADE.

Kerite Insulated Wire and Cable Used.
 Star Expansion Bolts.
 Metal Lath: Arthur Greenfield, Inc.

vators leading to the eight train platforms below. There is no intermingling of outgoing and ingoing traffic as the midway on either side opens directly into the grand lobby and the train gates lead directly to the train platforms. The train platforms which run parallel to the main building, or the cross of the T go under the main waiting room and give access to 16 through tracks. The platforms and tracks are covered by an umbrella type of train shed which extends 1,370 feet so that 32 trains may be under cover in the station at one time.

All city baggage, express and mail is handled in the basement or track level floor and tracks reach this level by inclines from two streets. All trucking to

and from the trains is done in a subway underneath the building and the tracks. This subway is reached by elevators located in the building and in each end of each platform. This system avoids all trucking on the passenger platforms that might interfere with the traffic.

One extremely interesting and advantageous feature of this station is the ease with which the station capacity may be increased at any time. The Terminal Company owns sufficient land so that the waiting room building can be increased in length and additional tracks added to enlarge the capacity of the station 50 per cent.

For express facilities, buildings ex-
 (Continued on page 240.)



ROTUNDA. U. S. CUSTOM HOUSE, BOSTON, MASS.

A. B. See Electric Elevators.
Star Expansion Bolts.

Peabody & Stearns, Architects.

Cutler Mail Chute.

Copper Work and Cornices: George A. Barnard.

Stamped Copper Crestings and Ornaments: Wm. J. Kelly.



Copyright, 1915, by A. H. Folsom, photo.
U. S. CUSTOM HOUSE, BOSTON, MASS.

Tower Clock: E. Howard Clock Co.
Evans' "Crescent" Expansion Bolts.
Grant Overhead Pulleys.
Bommer Spring Hinges.
Plumbing: W. G. Cornell Co.

Peabody & Stearns, Architects.

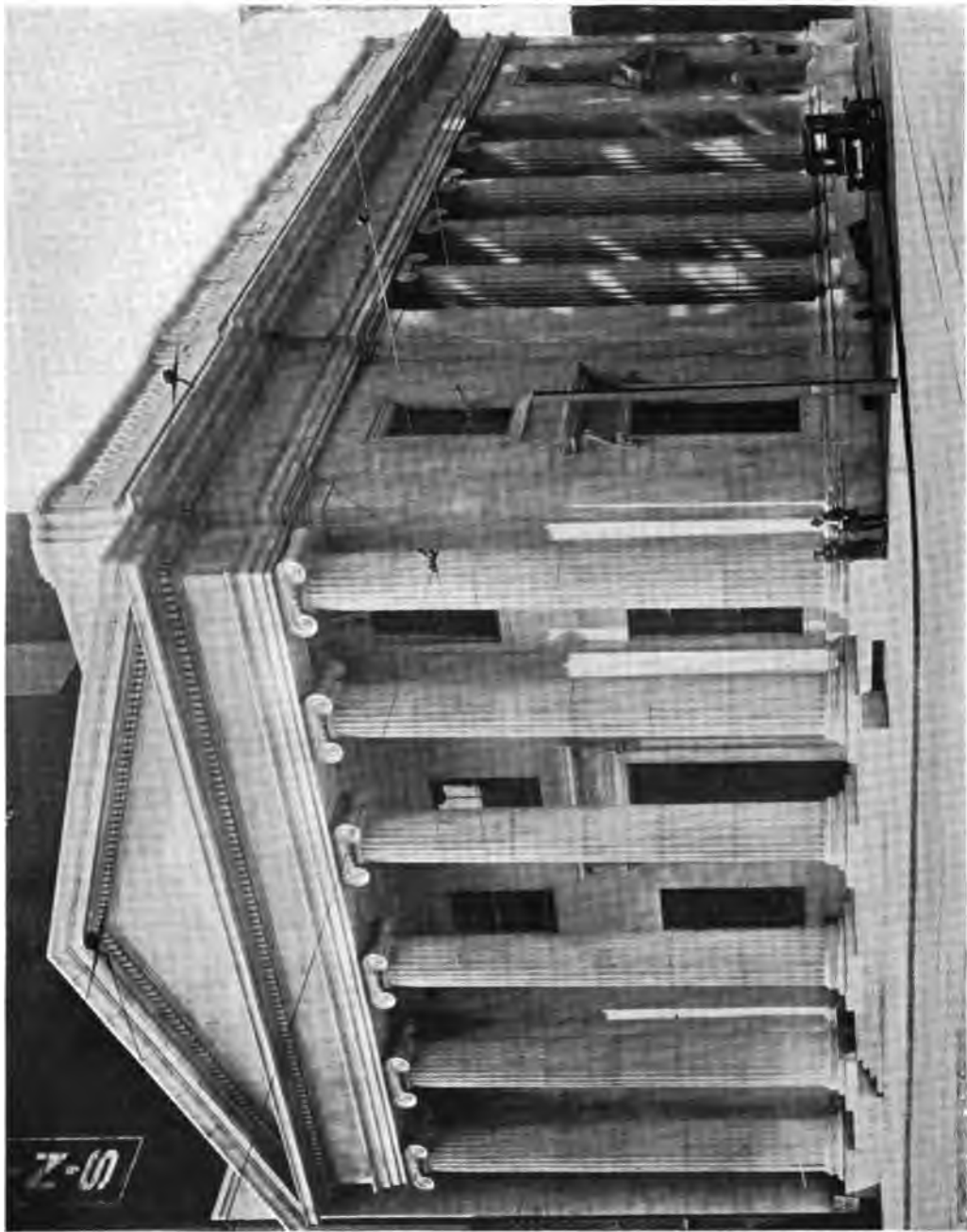


HALLWAY IN THE SOUTH FERRY BUILDING.

Interior Marble and Tile: D. H. McLaury Marble Co.
Painting: W. P. Nelson Co.

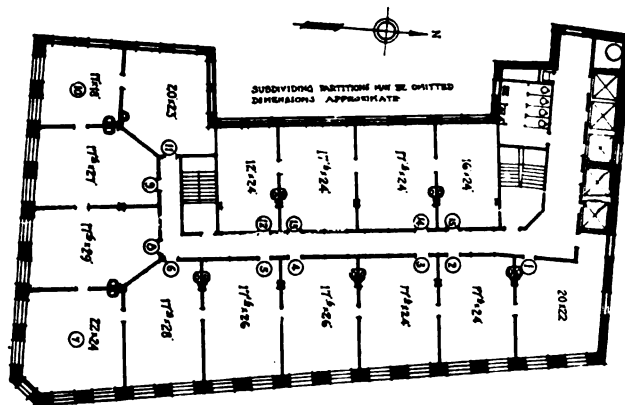


INTERIOR OF THE MANUFACTURERS' AND TRADERS' NATIONAL BANK.



Courtesy of "Stone."

MANUFACTURERS' AND TRADERS' NATIONAL BANK, BUFFALO, N. Y.
 Barrett Specification Roof. Stanley Butts.
 Exterior and Interior of Kennesaw Marble. From Quarries of Georgia Marble Co. Cut and Set by The Blue Ridge Marble Co.



SOUTH FERRY BUILDING, STATE AND WHITEWALL STREETS, NEW YORK.

Builders: Thompson Starrett Co.
 Barrett Materials for Roofing and Waterproofing.
 Evans' "Crescent" Expansion Bolts.
 Cutler Mail Chute.
 Grant Cast Iron Side Pulleys.
 Chicago Spring Butts.
 Sidewalk Elevators: J. H. Roberts Elevator Co.
 Interior Marble and Tile: D. H. McLaury Marble Co.
 Newman Watchclock System.

Starrett & Van Vleck, Architects.

C. E. Knox, Engineer for Elevators and Electrical Work.



STADIUM AT THE CITY COLLEGE OF NEW YORK.

Builders: Jacob A. Zimmermann & Son, Inc.

Arnold W. Brunner, Architect.

Tile Roofing and Waterproofing: Northern Waterproofing Co.

Charles Mayer, C. E., Consulting Structural Engineer.

Barrett Specification Roofing.

Plumbing: Charles H. Darmstadt.



APPROACH TO THEATRE. STADIUM OF THE CITY COLLEGE.



ROOM OF COLLECTOR OF THE PORT, U. S. CUSTOM HOUSE, BOSTON, MASS.

U. S. Custom House, Boston, Mass.

In Boston the new United States Custom House building is really a rebirth of the old structure; the Government appropriation being insufficient to buy additional land and erect a new building. To carry the lofty and heavy tower construction, concrete caissons were sunk approximately 100 feet to a footing on hardpan under the central portion of the old building. The tower rises 498 feet above the sidewalk, with outside dimensions of 65 x 75 feet. This tower is rather an odd development, architecturally of the low Doric building which was the former Custom House, still the finished structure is well balanced and the old building seems a solid and fitting base to the tower which overtops everything else in Boston. The cladding of the tower is Quincy granite and Rockport granite. Just below the 24th story of the tower there is a large clock with four dials in each face 21½ feet in diameter. The dial face is of Vermont marble and the clock was installed by the E. Howard Clock Company.



ENTRANCE TO TRANSIT ANNEX.
Bulletin Board: U. S. Changeable Sign Co.



TRANSIT ANNEX, 10 EAST 43RD STREET, N. Y.
George B. Post & Sons, Architects.

The interior of the old building has been reconstructed, though the main divisions of it remain the same. The old rotunda with its dome is retained but its interior has been refinished with fine marble work.

There are four passenger elevators and two stairways, giving access to the 27 stories in the tower. As the Boston building ordinance limits the height of buildings to 125 feet, the Custom House stands out in marked contrast to its surroundings and Boston's only skyscraper will remain a land-mark which is not apt to be rivaled.



INTERIOR. PHOENIX HERMETIC CO.



INTERIOR. DELAWARE & HUDSON CO. BUILDING.



CONCRETE BUILDING FOR THE PHOENIX HERMETIC CO., BROOKLYN, N. Y.
"Bay State" Brick and Cement Coating used. **Henry A. Smith, Architect.**

CITY COLLEGE STADIUM

The new stadium which has been erected on Amsterdam Avenue at 137th Street in connection with the buildings of the City College of New York is intended as a theatre for the observation of athletic contests and for open air spectacles and plays. It is a gift to the College from Mr. Adolph Lewisohn. The building is concrete and has sixteen sections of seats which are approached by a covered promenade which opens on the level of Amsterdam avenue. Full advantage has been taken of the natural slope of the ground in laying out the building. Pavilions at either end of the semicircle flank the seats and give balance to the design.

The building was designed by Arnold W. Brunner and was built by James A. Zimmermann & Son, Inc. Charles Mayer was the consulting structural engineer, Chas. H. Darmstadt held the plumbing contract and the roof of the promenade is covered with Barrett Specification material over concrete.

ST. HENRY'S CHURCH

St. Henry's Church at Bayonne, New Jersey, is a well proportioned stone structure designed with nave, side aisles and clear story and shallow transepts. The interior treatment is in ornamental plaster following delicate lines and though the interior is as yet undecorated the church is attractive because of its careful designing.

T. H. Poole & Co. were the architects. T. A. O'Rourke, Inc., did the ornamental and plain plastering.

ST. JAMES' CHURCH

St. James' Church is a much smaller structure from the design of Ludlow & Peabody. The exterior is in brick with

stone trimmings. The Sunday-school room opens at the rear of the auditorium being divided from it by folding partitions so that it can be used separately or opened into the main church for services.

The Miller-Reed Co. built the church, T. A. O'Rourke, Inc., did the ornamental



PHARMACY IN THE KANSAS CITY UNION STATION.
Bentwood Furniture: Jacob & Josef Kohn.

and plain plastering and Geo. A. Dugan Co. did the fireproofing and cement work.

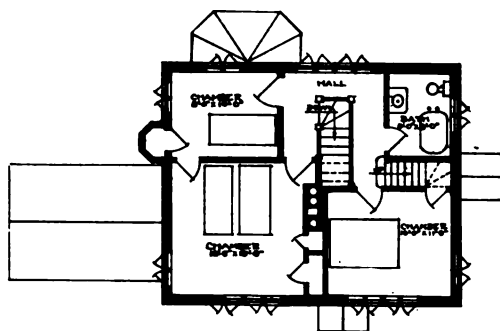
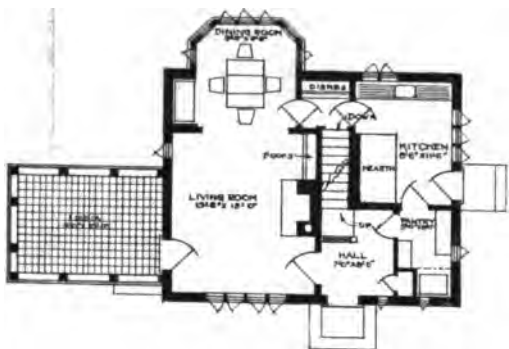
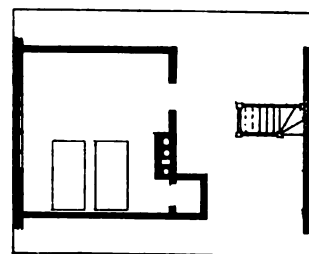
KANSAS CITY STATION

(Continued from page 229.)

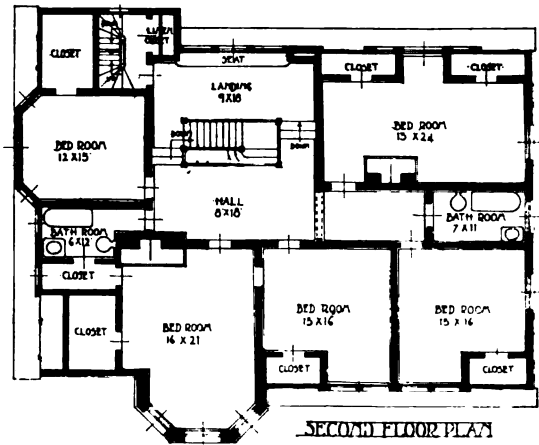
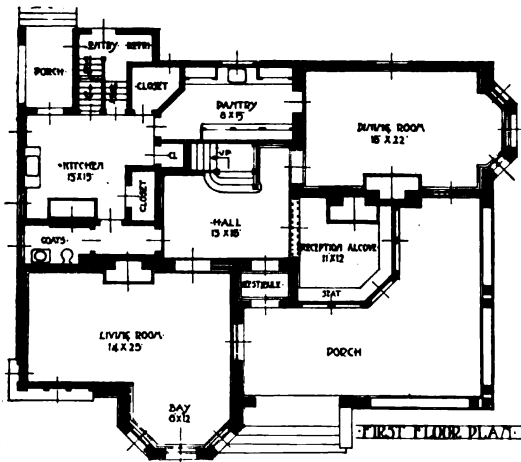
tend in a continuous stretch for over 1,000 feet to the west of the main station building.

The building was designed by Jarvis Hunt and constructed by the Geo. A. Fuller Company.

Otis elevators are used and Kerite insulated wire and cable is used throughout for power, lighting, signalling and interlocking. The building has its own power plant, the power house covering an area of 28,350 sq. feet. The metal lath work for plastering was done by Arthur Greenfield, Inc., and in the lunch room and drug store, the bent wood chairs were supplied by Jacob & Josef Kohn.

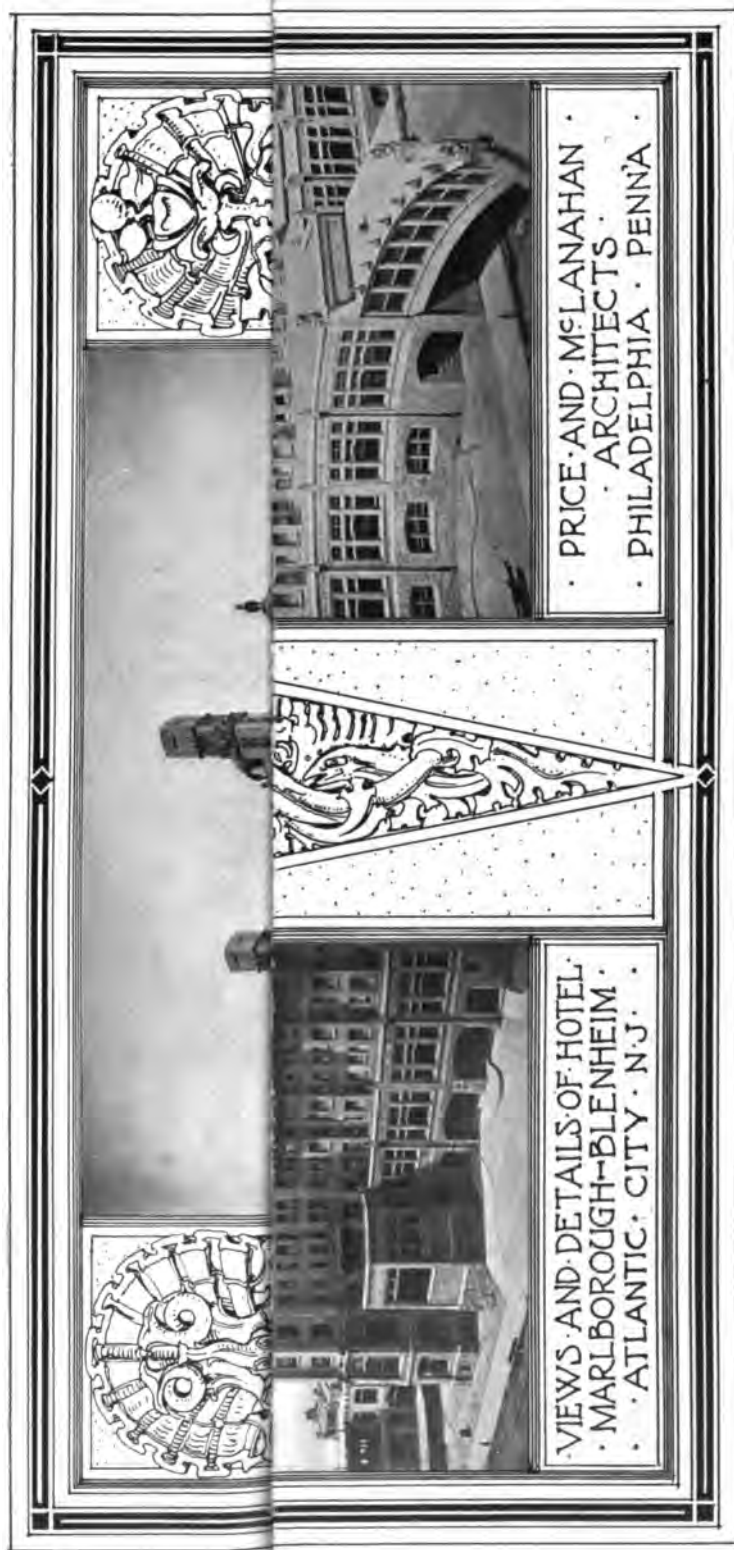


KRYS-KRYNGLE COTTAGE AT WYOMING, N. J.



HOUSE AT CATSKILL, N. Y.

E. G. W. Dietrich, Architect.



Supplement to Architecture and Building,
Copyright, 1915, by the Wm. T. Comstock Co.

Progressive Architectural Construction by Frederick Squires.



July, 1915

GEN. ENG. LIBRARY
AUG - 7 1915
ARCHITECTURE
AND BUILDING

Concerning Competition

By Theodore Starrett

Remaking a Building for a Bank

By M. R. G.

Illustrations of New
Bank Buildings

Bank Lighting

By F. Laurent Godinez

Detail Plate

A Small House

Other Illustrations

Published by
The William T. Comstock Company
New York

20 c. a copy.

\$2.00 a year.



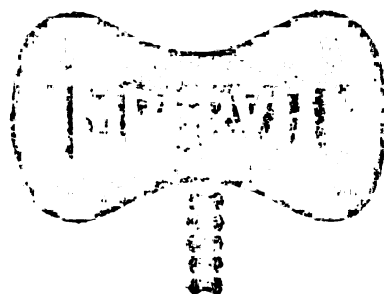
"Globe" Ventilators

combine highest efficiency with strength and durability.

Made in heavy galvanized iron, copper and Toncan metal and with glass tops when desired.

Send for Model Demonstrating Operation

Globe Ventilator Co.
Troy, New York



STUCCO Made With



IS Waterproof & NON-CRACKING

Send a Postal for Book 91

The Standard Paint Co. New York
Boston
Chicago

Capital, \$5,000,000.00



**"F-S" Products are
Strong on Quality**

Have you ever used "Ef-Es-Co" for dead-flat white finishes? A smooth, hard, durable, washable surface is what you would get. "Ef-Es-Co" stands wear, and it flows out well under the brush. It is good on wood or metal. Dead white or various shades.

FELTON, SIBLEY & CO., Inc.
Manufacturers of Colors, Paints and Varnishes since 1863

136-140 North Fourth Street,

Philadelphia

ARCHITECTURE AND BUILDING

A Magazine Devoted to Contemporary Architectural Construction

WILLIAM P. COMSTOCK
Managing Editor

THEODORE STARRETT
Contributing Editor

Volume XLVII

JULY, 1915

Number 7

The accepted theory of the benefit of competition to the competitors is that it sharpens the wits and stimulates, hardens the fibre, as they say. It keeps men from degenerating to the condition of the savage of the Tropics who becomes at last almost too lazy to lift his food to his mouth and if he happens to have a half dozen or so of wives he avoids even that labor.

Competition is a civilizer, but it's something that if allowed to run riot, becomes a great disintegrator, if you builders happen to know what that word means. (I hope some builder is reading this.) It separates institutions into their component parts, it disorganizes organizations, it separates investors from their money. It builds manufacturing plants and then ruins them, so that buildings stand idle and empty and the men who worked in them hunt new jobs.

Competition overdone is worse than whiskey overdone, worse than overdone Jersey lightning, which, as far as I have been informed, is the deadliest of that species.

Competition in building used to be curbed and checked by uncertainty as to what things would cost. It was restrained, too, by what I will call the seniority system, in which the older and more experienced and more reputed had access, as it were, to the plums. That is, the best jobs were reserved for the seniors.

What caused the breaking down of this system, for it has largely weakened in late years, it is hard to say in a comprehensive way in the space allowed for this effort, but I think as good a thing as any to blame it on is Human Nature. When a man is uncertain as to what a thing will cost—he is making up an estimate which is but an aggregate of opinions of various would-be contributors to a building operation that the thing will, or may, cost so many dollars—there is nothing that gives him confidence like the knowledge of what some one else thinks it will cost. He can measure himself against that other man. He can say "I am brighter than he; I have better men than he; I can buy cheaper than he." Or it may be the other way; the other man may have the advantage.

But, at any rate, the other fellow is a standard or base from which our guesser moves up or down—I mean down. It is understood that all this figuring is done in the dark, as it were. There's no advising with others, whether competitors, or people who have been through the mill and retired. If there were advising or comparing notes with competitors it would be against the law, of course; it would be conspiracy which is very, very wicked. Nobody goes to Heaven that conspires; some of them lately have got themselves in jail with their little foolishness.

Well, our little builder is making up his estimates. He wonders what the other fellow is figuring.

Now, we will assume that one of these builders calling themselves architects—not architects calling themselves builders—is receiving these estimates. With an eye single to his client's interest he looks them over and sees that they are too high. Strange how invariably this happens.

To be charitable with this builder acting as an architect, one would say that his zeal for his client absolves him from guilt for what he now does, but that does not make the damage any the less. Out of his own experience as a builder the architect knows those figures are too high.

One of the most successful of these builders posing as an architect was not moved so much by zeal for his clients as by a lust for robbery. He is still at large in the community, a little bit sated, a little bit weary, not so keen at the game as once, rich and luxurious from the fees paid him by grateful clients, and the joke of it is that his clients are among the wealthiest men in the country. His success in inducing contractors to contribute to these rich men's wealth is another instance of "money going to money."

I will tell just one sample of this builder-architect's work. It is typical of this game of getting the poor little guesser to guess again.

The bids were in on the Grand Babylon Building. (Little builder, you ought to be reading this. The Grand Babylon is the hotel that Arnold Bennett wrote a story about. It is an imaginary building.) The bids were in, as I was saying, and were too high. They were always too high for this ex-builder practicing architecture. The item for terra cotta was \$70,000 (this is an actual, true story, not disguised, nor twisted—just the absolute, cold facts). Our ex-builder had summoned a few likely victims—candidates, I mean—and he told one of them that he had a figure of \$55,000 on the terra cotta. He told him other things to brace up his courage to cut some more off his estimate.

It was a case of letting the guesser know what others had figured. It gave him great confidence. Incidentally the terra cotta on that particular building was bought for \$55,000, although subsequent investigation failed to discover who had made the estimate. It was, in fact, a fairy figure, originating in the brain of the architect of the Grand Babylon building.

How many buildings has that fellow succeeded in getting constructed for fairy figures? How many builders has he crippled, and some ruined, by his tactics?

The seniority system, as I called it, was a restraint upon this kind of business. Older men, who had experience to back their opinions—I mean guesses, for that's what they are, whether they originate in a young or an old brain—were not so susceptible to blandishment of the kind I have been telling about.

Human Nature again! What a lot of things the dear old girl has to answer for!

But looking at the thing from another point of view, it is my experience that when competition gets loose, when all restraint is gone, that none of those ex-builder tactics that I spoke of are necessary to get low figures—too low figures, figures so low that they wipe out the builder's pile, lessen the pile of his bondsmen and even have been known to cause a shortage of the sacred pay of the poor six-dollar-a-day mechanic.

In these days all that it needs is to put the job up where the builders can see it, and they will dash themselves to pieces against it and not a word from anybody to coax them on.

"To such base uses are we come at last."

Theodore Starrett.



HOLYOKE NATIONAL BANK, HOLYOKE, MASS.

General Contractors: P. J. Kennedy & Co., Inc.
 Bronze Counter Screen: John Williams, Inc.
 Interior Marble: George Brown & Co.
 Ornamental and Plain Plaster: Jacobson & Co.
 Interior Decoration: H. W. Guterman Co.

Wm. B. Reid, Architect.
 Thomas Bruce Boyd, Bank Specialist.

REMAKING A BUILDING FOR A BANK

By M. R. C.

To start a new project with ample funds in hand is an easy and sure way to get satisfactory and efficient results. To take a finished building and remake it to suit special requirements, with due regard for economy, is a problem that will tax the brain of the cleverest designer. In creating the new quarters for the Holyoke National Bank, the problem presented was the remodeling of a perfectly good and valuable modern building, which, though unsuitable in itself, was, because of its location, desirable to the bank.

The original building, occupying a plot 49 x 90 feet, was of six stories, with stores at street level. There were the usual structural columns for support within the building and the problem consisted in practically removing the entire first and second stories and replacing them in such a manner as to furnish proper structural support to the four upper stories. This work was accomplished and a complete new fireproof structure of concrete and iron was built under the upper part of the existing building. The banking room of two-story height is free from columns and the upper portion of the building is carried on cross girders entirely from the exterior walls. This construction, which forms the ceiling of the bank, is roofed over and waterproofed, being provided with a drainage system like an ordinary roof, so that in the event of a fire in the upper portion of the building, there will be no leakage of water into the quarters of the bank.

In the work of reconstruction, the exterior walls of the first two stories were built of Indiana limestone up to the third story course and in its altered appearance the building presents an architectural balance markedly superior to the original structure.

The banking room occupies the area of the first story, an amply proportioned space with a ceiling height of 23 feet. This room is lighted by seven large win-

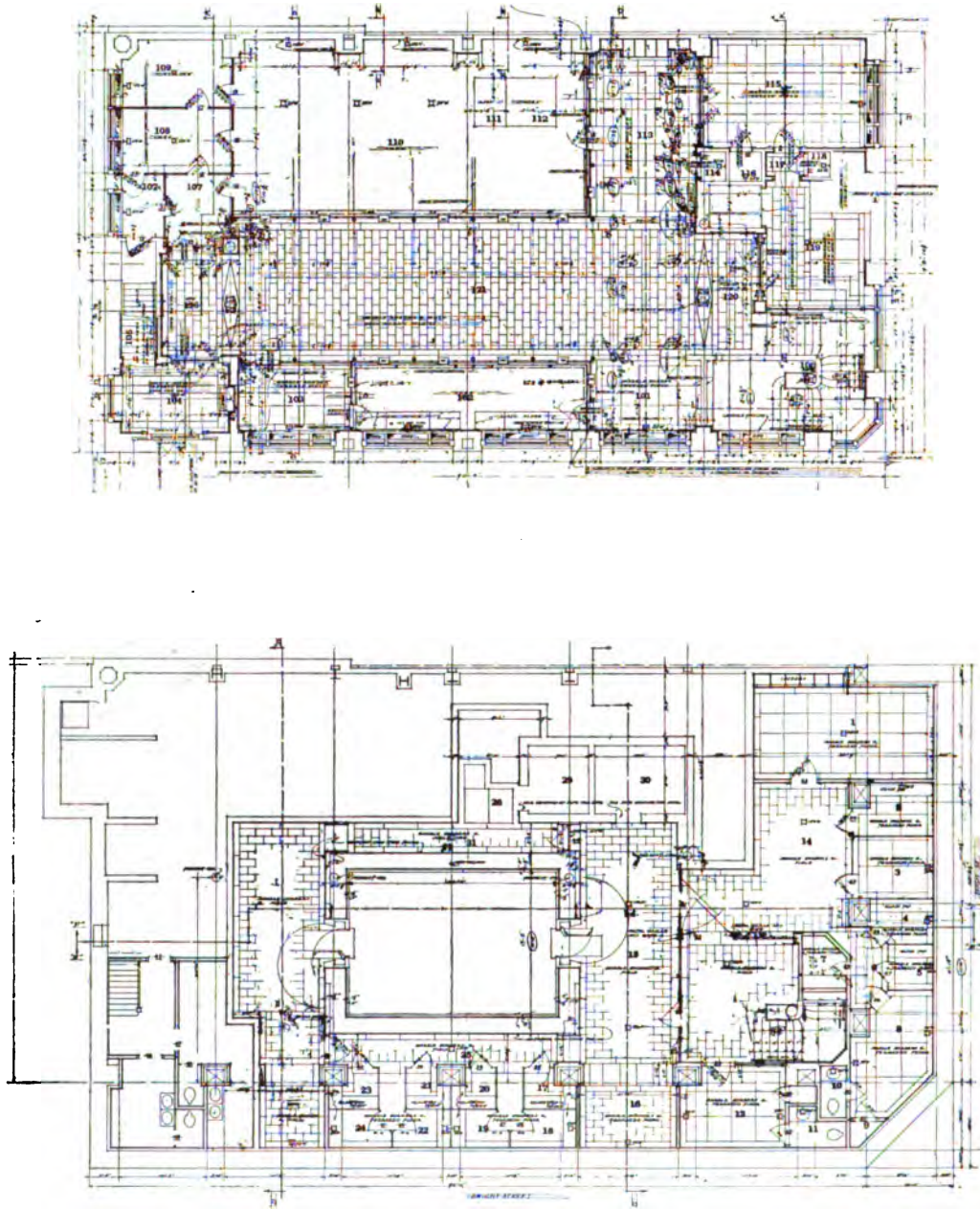
dows, which give an even and well-distributed light. The plain wall surfaces are finished in imitation Caen stone laid out in courses with the pilasters, wainscoting and counter screens in hone finished rose Tavernelle marble. The ceiling is in ornamental plaster with the cross girders emphasized and the panels between laid out in coffer. The floor is of



AS THE ALTERATIONS STARTED.

grey Tennessee marble in large slabs with panels and borders of Belgian black marble mosaic. At either end of the banking room floor space, are mosaic inlays set with bronze letters showing the seal of the bank. The banking counter is of rose Tavernelle marble with a screen consisting of marble columns supporting a marble cornice with panels between of ornamental bronze and plate glass. The lighting of the banking room is indirect; lights and reflectors being set in the top of the banking counter screen. The total absence of fixtures improves the architectural lines.

There are entrances to the bank from



PLANS OF BASEMENT AND FIRST STORY.

Thomas Bruce Boyd, Bank Specialist.



HOLYOKE NATIONAL BANK, HOLYOKE, MASS.

General Contractors: P. J. Kennedy & Co., Inc.
Heating and Ventilating: Holyoke Supply Co.
Ornamental Iron: Wells Architectural Iron Co.

Wm. B. Reid, Architect.
Thomas Bruce Boyd, Bank Specialist.



STAIRCASE FROM SAFE DEPOSIT TO MAIN STORY.

Interior Marble: George Brown & Co.

each of the street sides, with vestibules giving approach to the stairways and elevators to the upper floors as well as to the banking room. The arrangement in the banking room provides for cashier's desk, savings department and ladies' waiting room upon one side with the commercial department upon the other. At the corner of the building, where the streets intersect, is the stairway to the safe deposit department, which is featured in the decorative scheme. The President's office occupies the space corresponding to this stairway on the opposite side of the building.

In the basement is the safe deposit de-

partment. The arrangement of the space is well thought out with economy as well as complete convenience for service. The approaching stairway from the first floor leads into a foyer which is divided from the vault by a heavy steel grille. This really separates the front portion of the basement from the rear portion occupied by the safe deposit department. In this front portion is the Directors' room, a small library or meeting room and a special room for women patrons. The vault space below the sidewalk is utilized for this purpose upon both street sides of the building, and within the safe deposit department provides ample space for cou-



VESTIBULE AND HEAD OF STAIRS TO SAFE DEPOSIT.

Interior Marble: George Brown & Co.
Bronze Work: John Williams, Inc.
Ornamental and Plain Plaster: Jacobson & Co.
Otis Elevators.



SAFE DEPOSIT FOYER AND APPROACH TO BOARD ROOM.

Bronze Work: John Williams, Inc.
Evan's "Crescent" Expansion Bolts.
Interior Decoration, Draperies and Rugs: H. W. Guterman Co.



PRESIDENT'S ROOM AND BOARD ROOM.

Thomas Bruce Boyd, Bank Specialist.

pon rooms, some suitable for individuals, others large enough for the meetings of committees.

The safe deposit vault is 18x25 feet and occupies the centre of the floor area. The vault is centrally divided by a heavy steel grille and has two doors, one at each end. The front half of the vault is used by the safe deposit department and the rear by the commercial and savings departments of the bank. A corridor completely surrounds the vault. In addition to the main vault, there is a special vault for silver storage, 8x12 feet, and a vault of slightly smaller dimensions for the books of the bank. There is a special lift and stairway from the first floor directly to this vault, so that all the books are conveniently and quickly accessible. An innovation is the special room for the bank examiners in the basement adjoining the vault. Here the securities of the bank can be examined quickly and without interruption.

The entire premises is protected by an electric alarm system and a guard is in constant attendance about the bank and vaults. A dictograph system of sixteen stations is provided for inter-communication.

The street facade of the bank is as modern and businesslike as the interior. The doors are of bronze and the marquees and window panels of black iron and glass. At night the exterior may be illuminated by outside lights set in reflectors above the windows and in the marquees, producing an even illumination of the bank front and sidewalk.

The original building was designed by William B. Reid and it was natural that he should be the architect for the structural alterations. At an early stage of the work, when the development and equipment of the bank was first considered, Thomas Bruce Boyd was called into consultation, and through his suggestions the plans were developed in conjunction with the efforts of George C. Gill, the President of the bank. Mr. Gill possessed, in addition to a thorough knowledge of the

bank's present needs, a keen understanding of its future requirements, and good constructive ideas, which he directed toward the development of the plan. All of the drawings and specifications for the banking quarters were prepared in the office of Mr. Boyd.

To make sure of the success of the ultimate design, after the interior partitions of the original building had been removed and the area was practically clear, the waste material was used to construct a dummy bank. This gave a full scale scheme which under the suggestion of Mr. Boyd was studied by the bank officers and clerks until the final arrangements were perfected. Considerable time was taken up in this process of experimenting, but from its results, the final plans were prepared. The finished work is good evidence of the return obtained by this forethought in planning.

In the construction of this bank the best of materials have been employed, and it is notable that the work has been done by firms of the highest repute. Yet the facts prove that the work was procured at a cost no greater than that very often expended in similar institutions for inferior materials and workmanship. The bank has a distinction in design not usual in institutions outside the largest cities and stands as an example of what can be produced both in design and construction by a capable organization.

P. J. Kennedy & Co., Inc., was the general contractor. Geo. Brown & Company did the beautiful interior marble work more fully described elsewhere, and the bronze work of fine workmanship was done by Jno. Williams, Inc. Jacobson & Company did the plain and ornamental plastering. The ornamental iron work of the exterior was done by the Wells Architectural Iron Co. and the Holyoke Supply Co. did the heating and ventilating. The H. W. Guterman Co. did the interior decorations and supplied the draperies and rugs.



DESIGN FOR A COUNTRY HOUSE.

C. E. Schermerhorn, Architect.



BANK LIGHTING

By F. LAURENT GODINEZ

THE indirect system of lighting became popular because of its novelty.

It is a wonder some one did not think of turning lamps and reflectors upside down long ago. When the first applications of indirect lighting were made commercially, the public, always attracted by the unconventional, adopted the new idea as a child favors a new toy. Now the novelty has worn off, and again it is the unconventional—the thing different which attracts. I have repeatedly urged that lighting should be a part of, not apart from its environment, and this principle is universally applicable, banking interiors offering no exception to the rule. Another precept which I have expounded is that the lighting fixture, as a part of decorative or architectural environment should harmonize, but not obtrude. The interior with the indirect fixtures is a case in point; purely conventional in character, it is rendered more noticeably so by the lighting, which is commonplace and monotonous.

Another banking interior shown, equally unpretentious, is immeasurably improved by the lighting treatment. Compare the two views. The studied symmetry of the arrangement in the first, coupled with the incongruity of a series of dark blotches against a bright ceiling—not to speak of the uneven ceiling illumination—is abominable. Cover the upper portion of the picture so that these defects are concealed and note how much improved the interior then becomes in appearance. The other interior is also an application of indirect lighting, but how different! Here, lamps and reflectors have been cunningly concealed within the moulding strips atop the banking screen, and the thing is so well done that the whole interior is flooded with light. While the bays formed by the ceiling beams are larger than those in the first picture, this condition would not modify the effectiveness of the same treatment applied to any beamed ceiling. The simplicity of the environment in the second



view is so apparent that it would be difficult to find a treatment of ceiling fixtures sufficiently inconspicuous. It should be noted in passing that individual lamps and reflectors are used within the moulding. The use of continuous trough reflectors, and tubular lights for window lighting, cove lighting, or any application is inefficient and undesirable. For the same initial energy, either with gas or electricity, the individual unit, consisting of lamp and reflector, is from 20% to 75% superior to the continuous reflector in efficiency, and the reflecting surface is much more readily cleaned. The third interior shown is quite a different proposition. Here there is a very decisive architectural atmosphere, demanding lighting reconciliation, and scarcely a bet-

ter example of harmony in that relation could be imagined. Only in one respect does the photograph fail to convey an exact impression of this interior, for as it actually appears to the eye, the lower portions of the opaque baskets do not appear in shadow, since the flooring is sufficiently light in color to reflect ample light upwards to reveal all detail. This function of a light colored floor as a reflector of light is a very important consideration, and one, which in this

instance proved too elusive for the camera to grasp. It should receive consideration in every instance where opaque ornament of any sort (dependant from the ceiling) requires accentuation. It is by the observance of such refinements that good and effective lighting is produced.





MURCHISON NATIONAL BANK, WILMINGTON, N. C.

Bronze Work: John Polachek Bronze & Iron Co.
 Ornamental and Plain Plastering: J. T. Byers,
 Marbleoid Cork Tiling.
 Cutler Mail Chute,
 Newman Watchelock System.

Stanley Transom Butts,
 (Chicago Spring Butts,
 Diamond Hangers.
 Painting: W. P. Nelson Co.
 American Pulleys.

Kenneth M. Murchison, Architect.



MURCHISON NATIONAL BANK, WILMINGTON, N. C.

Builders: J. Henry Miller, Inc.

Waterproofing: Impervious Products Co.

Terra Cotta: South Amboy Terra Cotta Co.

Cement Floors and Walks: Harrison & Meyer.

Kentucky Blue Stone furnished by the Rowan County Freestone Co.

Kenneth M. Murchison, Architect.



Courtesy of Pittsburgh Industrial Development Commission.

FIRST NATIONAL BANK OF ALLEGHENY.

Lighting Fixtures: Sterling Bronze Co.

F. J. Osterling, Architect.



Courtesy of Pittsburgh Industrial Development Commission.

FIRST NATIONAL BANK OF ALLEGHENY, NORTH SIDE PITTSBURGH, PA.

F. J. Osterling, Architect.

BANK AT PITTSBURGH

The First National Bank, North Side, Pittsburgh, designed by F. J. Osterling, is a one-story building in the form of a cube sixty feet square by sixty feet in height above the sidewalk. Large low windows make the interior of the banking room visible from the street. The exterior is built of Ohio Liverrock sandstone with a base of polished granite extending above the sidewalk to the window sills. The main entrance to the bank is in the center of the Federal Street front through a spacious revolving door vestibule. The public space is in the center of the banking room, surrounded on all sides with a Tavernelle marble and bronze screen. The ceiling of the room fifty feet above the floor is an elaborate design decorated in harmony with the caen stone walls and Tavernelle marble. There is a central decorative chandelier which was made by the Sterling Bronze Co. At either side of the safe deposit department at the rear center are located the various departments of the bank, including the president's outer and inner office and the ladies' reception and private rooms. The plan affords a most convenient method of intercommunication between the various departments. The sub-story contains storage and safe deposit vaults and the directors' room.

FIRST BRIDGEPORT NATIONAL BANK

The First Bridgeport National Bank is a ten-story building of rich design. The entrance to the bank is emphasized by a two-story colonnade of Ionic columns. The building entrance is at one side of this, leading into an elevator foyer giving approach to the upper stories. The banking room occupies the entire space of the first story and is enriched with all the beautiful decorative qualities of the Corinthian order. The counter screen is in Hauteville marble for the base, with a delicately designed bronze and glass screen above. The ceiling is deeply coffered and enriched with ornament. The lights are semi-indirect and are hung between the columns at either side of the room, an ornamental treatment.

Tracy & Swartwout were the architects and Hoggson Brothers the contracting designers. The terra cotta was supplied by the Federal Terra Cotta Company, the bronze work was done by John Polachek Bronze & Iron Company, the ornamental iron by Wells Architectural Iron Co., and the ornamental and plain plastering by Jacobson & Co. The directory board was supplied by the U. S. Changeable Sign Co., and lighting fixtures by the Sterling Bronze Co. The plumbing was done by W. G. Cornell Co., and the Bishop, Babcock, Becker Co. installed the vacuum heating system.

MURCHISON NATIONAL BANK

The Murchison National Bank at Wilmington, N. C., is an eleven-story building with the first story, which is of double height, occupied by the banking room. In the exterior design, this story is of stone with an approach of monumental proportions to the bank, two massive Doric shafts flanking the entrance. Above the first story, the walls are of brick with terra cotta trimmings. The terra cotta is of cream glazed surface, while the spandrels below the windows and ornaments about the facade are in polychrome terra cotta.

The banking room interior is in marble with a counter screen of marble set with bronze screens. The upper walls and ceiling of the room are plastered and the ceiling bays between the columns coffered in simple design.

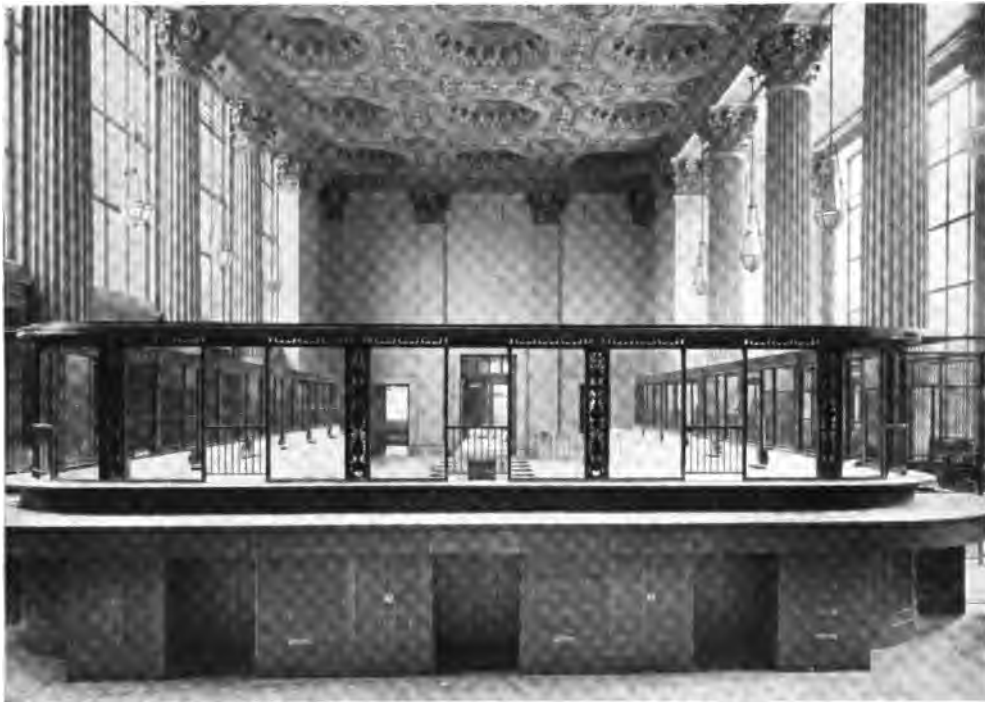
Kenneth M. Murchison was the architect. The South Amboy Terra Cotta Company supplied the terra cotta. Harrison & Meyer did the cement floors and sidewalks and Kentucky bluestone, furnished by the Rowan County Freestone Company was used. J. T. Byers did the ornamental and plain plastering and John Polachek Bronze & Iron Company made the bronze counter screen. Marbleloid cork tiling is used in the clerical spaces and the painting was done by W. P. Nelson Company. A Newman watch clock system is installed.



FIRST BRIDGEPORT NATIONAL BANK, BRIDGEPORT, CONN.

Hoggson Brothers, Contracting Designers.
 Ornamental Iron: Wells Architectural Iron Co.
 Terra Cotta: Federal Terra Cotta Co.
 Chicago Spring Butts. Cutler Mail Chute.
 Evan's "Crescent" Expansion Bolts.
 Plumbing: W. G. Cornell Co.
 Vacuum Heating Equipment: The Bishop, Babcock, Becker Co.

Tracy & Swartwout, Architects.



FIRST BRIDGEPORT NATIONAL BANK.

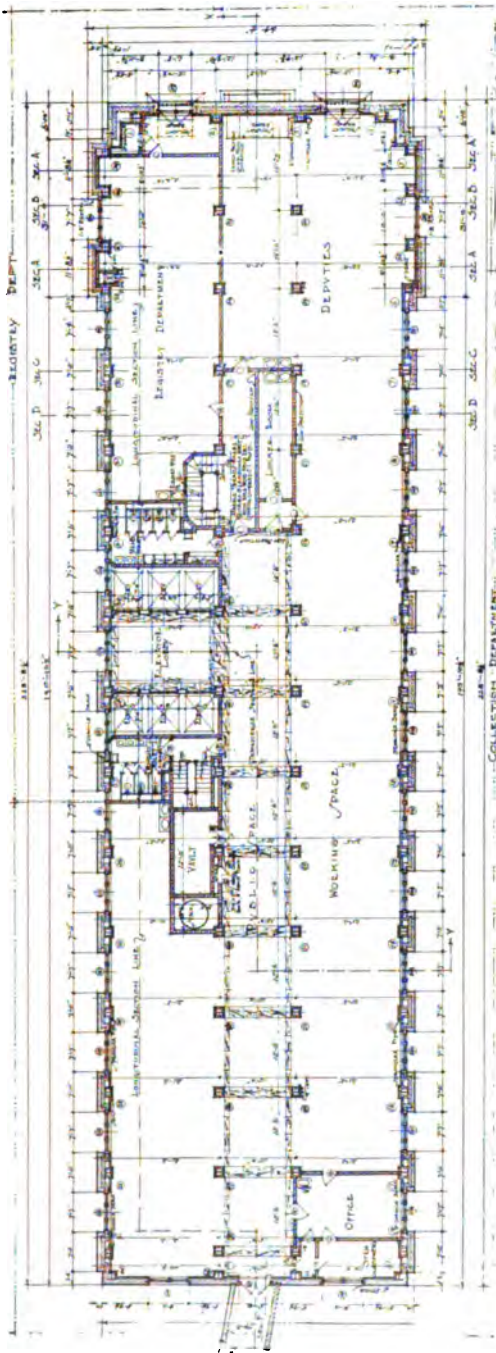
Hoggson Brothers, Contracting Designers.
 Bronze Work: John Polachek Bronze & Iron Co.
 Directory Board: U. S. Changeable Sign Co.
 Ornamental and Plain Plaster: Jacobson & Co.
 Otis Elevator. Stanley Butts.
 Ornamental Iron: Wells Architectural Iron Co.
 Lighting Fixtures: Sterling Bronze Co.



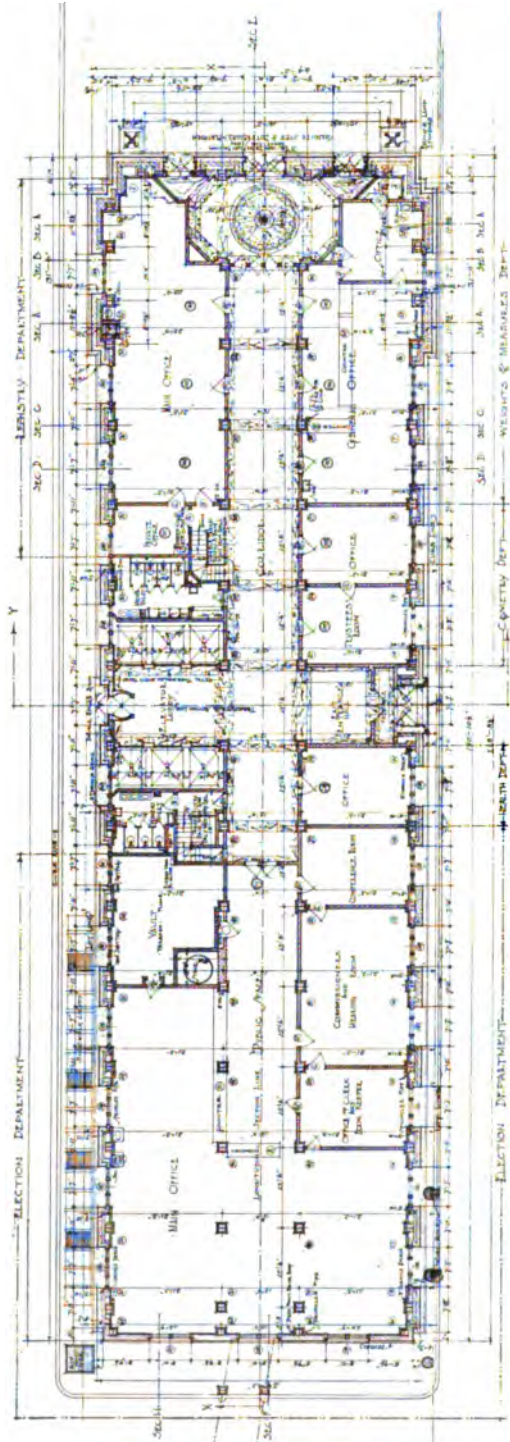
ANNEX TO THE CITY HALL, BOSTON, MASS.

E. T. P. Graham, Architect.

Builders: Wells Bros. Co.
 U. S. Changeable Signs.
 Evan's "Crescent" Expansion Bolts.
 Grant Overhead Pulleys.
 Otis Elevators.
 Steel Rolling Doors: Jas. G. Wilson Mfg. Co.
 Chairs: The Marble & Shattuck Chair Co.
 Stanley Ball Bearing Butts.
 Plumbing: W. G. Cornell Co.
 Chicago Triplex Butts.



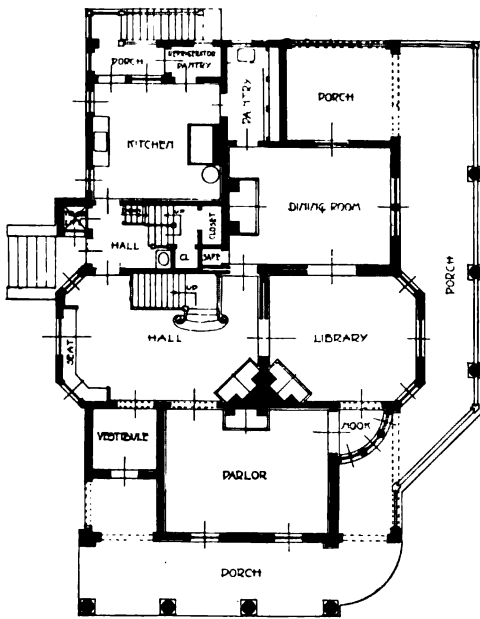
SECOND FLOOR PLAN
of Annex to City Hall



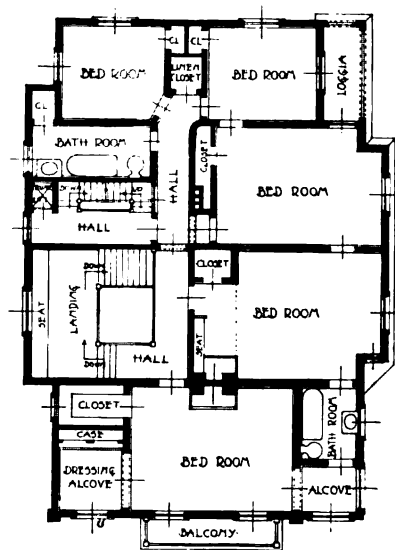
FIRST FLOOR PLAN
of Annex to City Hall

ANNEX TO THE CITY HALL, BOSTON, MASS.

E. T. P. Graham, Architect.



FIRST FLOOR PLAN



SECOND FLOOR PLAN

HOUSE AT JAMESTOWN, N. Y.

E. G. W. Dietrich, Architect.

NEW DEPARTMENT STORE, PITTSBURGH, PA.

JARVIS HUNT, Architect

The new retail department store for The Rosenbaum Company in Pittsburgh is a fifteen-story building, of which the first ten stories and basement are occupied by retail merchandise departments. Escalators connect the floors from the first to the seventh, in addition to the batteries of elevators and frequent stairways. The floors from the 11th to 13th are occupied by offices, receiving rooms, supply departments, work rooms, etc., while the 14th floor contains employees' lunch rooms, rest rooms, and a recreation roof. The 15th floor is a pent house story containing a kitchen and bake shop, where the food is prepared for the public lunch and tea room in the basement.

The arrangement of the store into aisles and departments is carefully considered and the counters, show cases and display

equipment are of the latest type. For the display of garments and suits, there is a thorough equipment, and the 6th and 7th floors contain much fine woodwork which gives an appropriate setting for the better display of fine clothing.

The design and laying out of the fixture equipment was done by Taussig & Flesch. The show cases throughout were made by F. C. Jorgeson & Company. Miller, Haas & Co. made many fixtures and did fine woodwork, and in the clothing departments, such as the men's suit department and ladies' clothing department, revolving wardrobes and other wardrobes were installed by M. L. Himmel & Son. The large soda fountain with its extensive counter, 113 feet long, was put in by the Liquid Carbonic Company.



MEN'S CLOTHING DEPARTMENT. FOURTH STORY.

Designers of Fixtures: Taussig & Flesch.
Wardrobes: M. L. Himmel & Son.

Lighting Fixtures: Lighting Studios Co.



DEPARTMENT STORE OF THE ROSENBAUM CO., PITTSBURGH, PA. FIRST STORY.

Designers of Fixtures: Taussig & Flesch.
Show Cases: F. C. Jorgeson & Co.
Tables: Miller Haas & Co.
Otis Elevators.
Bommer Spring Hinges.

Jarvis Hunt, Architect.



DEPARTMENT STORE OF THE ROSENBAUM CO. SEVENTH STORY AND SODA FOUNTAIN.
Soda Fountain: The Liquid Carbonic Co.



DEPARTMENT STORE OF THE ROSENBAUM CO. SIXTH STORY.

Designers of Fixtures: Taussig & Flesch.
Fixtures and Woodwork: Miller Haas & Co.
Himmel Revolving Garment Wardrobes.



ST. RAPHAEL'S CHURCH, 41ST STREET AND 10TH AVENUE, NEW YORK.

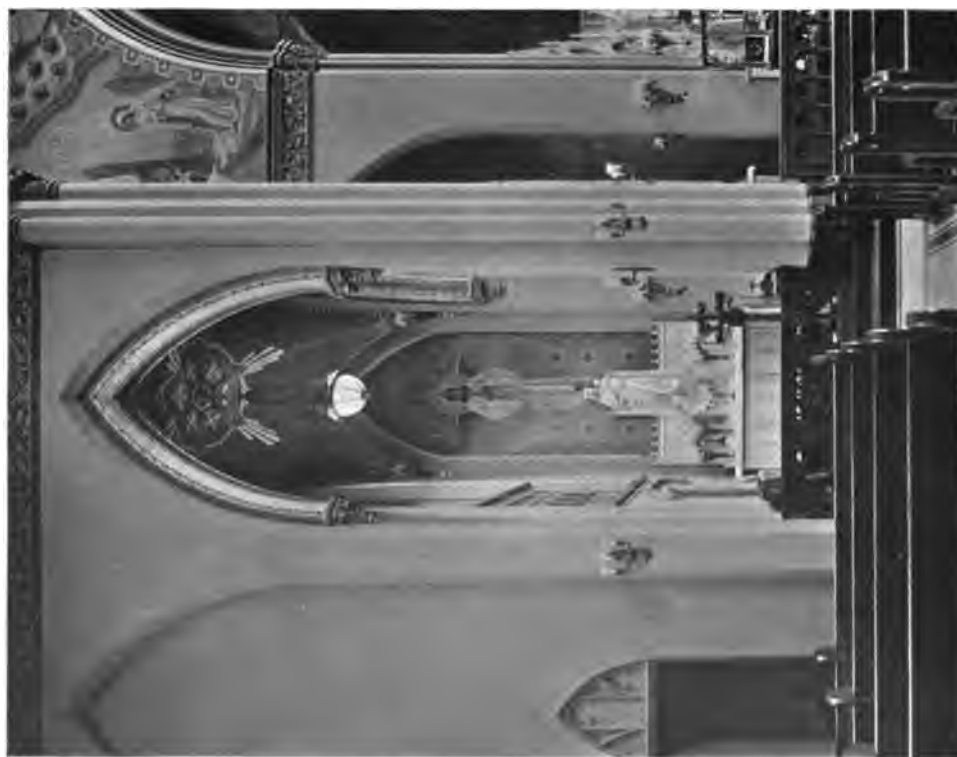
Electrical Contractors: The Ideal Electric Contracting Co.
Lighting Fixtures: The Simes Co.

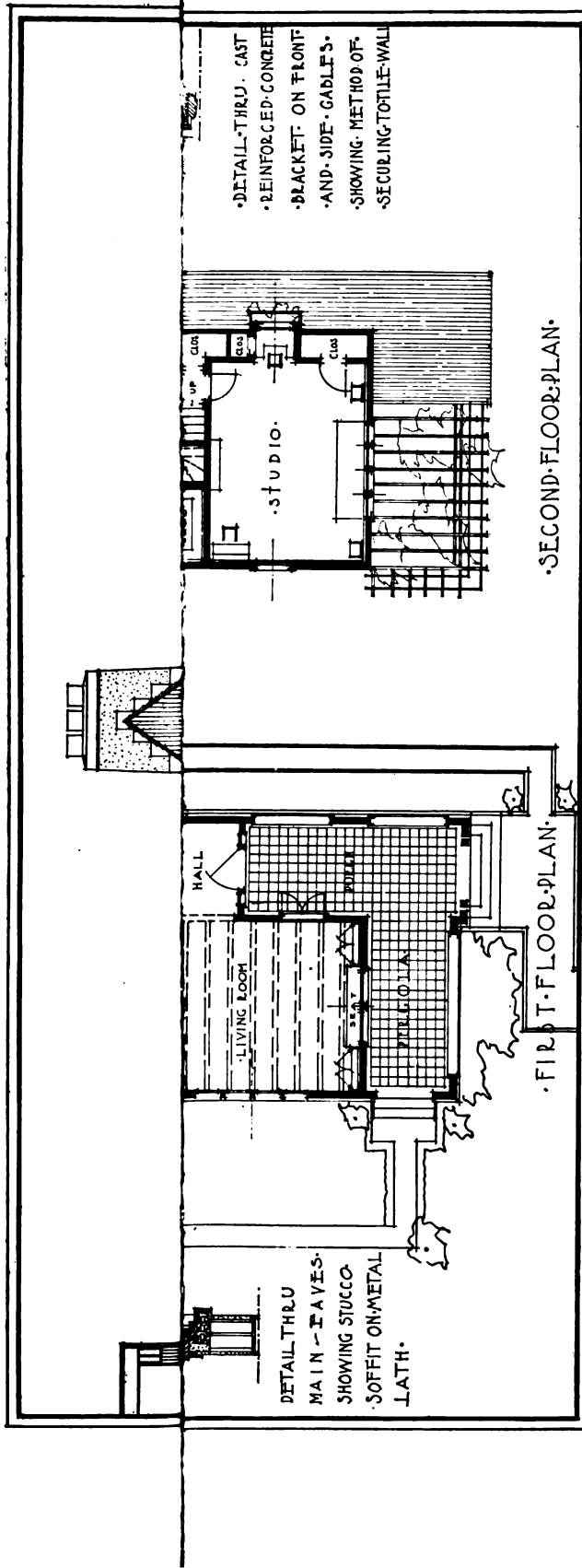
George H. Streeton, Architect.



ST. RAPHAEL'S CHURCH, NEW YORK.

George H. Strecton, Architect.

Electrical Contractors: The Ideal Electric Contracting Co.
Bommer Spring Hinges.



Supplement to Architecture and Building.
Copyright, 1915, by the Wm. T. Comstock Co.

Progressive Architectural Construction by Frederick Squires.
D. F. Wendehack, Architect.

1

2

August, 1915

Englebert
Library

ARCHITECTURE AND BUILDING

Dead Expense
By Theodore Starrett

Repeal of the Tarsney Act
By Tom Thumtack

Masonic Temple, Pittsburgh

Circle Building, New York

Widener Memorial Library, Cambridge

Residence Designs
Rowe & Smith, Architects

Published by
The William T. Comstock Company
New York

20 c. a copy.

\$2.00 a year.

GENERAL LIBRARY
SEP 17 1915
UNIV. OF MICH.



"Globe" Ventilators

combine highest efficiency with strength and durability.

Made in heavy galvanized iron, copper and Toncan metal and with glass tops when desired.

Send for Model Demonstrating Operation

Globe Ventilator Co.
Troy, New York



STUCCO Made With



IS Waterproof & NON-CRACKING

Send a Postal for Book 91

The Standard Paint Co. New York
Boston
Chicago

Capital, \$5,000,000.00



Build on "F-S" Products for Substantial Results

You get durable, satisfactory finishes when you specify our Varnishes. We've been making them and improving on them for half-a-century. They are the results of honest endeavor to turn out quality products. Only reliable materials are used.

FELTON, SIBLEY & CO., Inc.

Manufacturers of Colors, Paints and Varnishes since 1863

136-140 North Fourth Street,

Philadelphia

(116)

ARCHITECTURE AND BUILDING

A Magazine Devoted to Contemporary Architectural Construction

WILLIAM P. COMSTOCK
Managing Editor

THEODORE STARRETT
Contributing Editor

Volume XLVII

AUGUST, 1915

Number 8

A friend of mine, who, it seems, reads these monthly offerings, said to me in a cynical way (it's strange how many cynics there are among the builders) that it might be true that the sub-contractors got the worst of it in their contest with the builders, but how could it be helped and what in the world was the use of talking about it?

I replied that there was a lot of use, that some day the profession—the contracting profession—would wake up to its folly and quit being made a mark of. "If I could only get the builders of this country to reading my little two or three pages a month I would guarantee to break them of the disastrous habit of **TAKING WORK FOR LESS THAN IT COST.**" There would be an end of furnishing samples free, or at a loss, to get an opening. There would be an end of accommodation jobs such as one that I will now tell about.

A very big architect was taking an ocean trip. On the same steamer was a man also very big in another way—big in influence—a man well along in years who had just married a young wife and had a notion he would like to build a home—a modest country place. The architect had a fine nose for influence. He had been able during a successful career to sniff it out and get next, as a baseball reporter would say. The architect talked with the man of influence and heard of his modest ideas for a country home. The young wife was along and she joined in, and before long the architect was sketching the plans on some sheets of the ship's writing paper. It was the usual modest affair, fully three times as big as the prospective owner

had money to pay for. Now the architect must have known this, although modest country places were not in his line, but he had something else up his sleeve. The influential man said that he had only \$10,000 to spend, but that caused no abatement of the architect's enthusiasm. He sketched a living room 40 ft. long, a breakfast room, boudoirs galore, bathrooms by the half dozen, a tile floored pergola 75 ft. long. It was easily a \$30,000 proposition. The upshot was that the bridegroom commissioned the very big architect—he was a very big one, used to jobs that ran into millions—to prepare the plans of his modest residence.

When the architect reached his home city and turned the sketches over to "the office" he was speedily made aware, if he had not been before, of the fact that the building could never be built for \$10,000. That was what the office said. But the very big architect had a private chat with his man Friday and explained the situation. The result was that the plans were finished up just the way the owner wanted them, and a half dozen good medicine-takers were summoned, one to do the brick work and foundation, another to do the plastering and decoration, another to do the sheet metal and roofing work, another for the plumbing, another for the heating, and so on. And when the time came the influential man was asked to sign an aggregate of contracts well within his appropriation. Each one of these contractors contributed his share to the influential man's house, and each one prepared to add enough to his extra bill on this, that or the other job that he was doing, or expected to do, to make the undertaking profitable.

I said prepared. Not one of these builders got away with his scheme to make up from some innocent third party for his contribution to the influential man's estate.

Time was when such things could be done. Time was when that was the accepted way to make money at the building game. And time was when wiseacres thought that was THE ONLY WAY. Some think so now.

There are lots of other little tricks like the above that used to be put over. Some of the tricksters are dead, and a few are in the penitentiary. But the lines are tightening all the time and the wise man nowadays is disposed to stand aloof.

To preach to builders to quit taking work at a loss may seem to some like baying the moon, but—I do not think so.

It's a hard world, my masters, and the down slope is so easy!

Architects, too, have their troubles with accommodation work, making sketches gratis and chasing after prospective clients with bait that too oftentimes is bait thrown away. But there seem to be a plenty among them to preach against that practice, so I will let them alone while I attend to the builders.

There's no doubt that the world as now constituted has to carry a tremendous lot of dead expense. It is quite likely that it always will. But gunning for ducks with a shotgun is very different from

going after them with a cannon. (I wonder if any builder understands what this means. Pause, little contractor, and get the meaning.)

Game was once so plentiful that the single-shot gun, the rifle or the musket, was a perfectly satisfactory weapon for a Davy Crockett. But times changed and the practice of covering a larger space with a charge of birdshot made it possible for less skilful huntsmen to bring home the game. A hundred pellets of lead cost but little more than the single bullet for the backwoodsman's rifle, and if one killed the bird the other ninety-nine could still be afforded, though they were, as a matter of fact, dead expense.

There must be a balance between this dead expense and the gross production of a business. The accommodation job is become a dead expense; it is bait to catch the fish. But builders have been using too much bait and not catching enough fish.

And there's no use kicking against the pricks. There's no use saying that the old times will come again; or that things will drift around and the flood of prosperity make work for all and profit accordingly. In building there is no chance for anything or anybody except right out in the open and above the board.

I have spoken in these pages of the elaborate and extensive system of competition that builders are subjected to. It is architect reporting to owner and straining to satisfy him—the owner, his boss; it is builder, separated from the owner—the architect standing between—trying to please the architect, whose favor is necessary to his very life, and trying to satisfy the owner, too. Then if the builder has been driven by the force of circumstances to bet his fortune—or a fortune—on the cost of the work it is a fight either between him and those whom he employs upon the work, whether sub-contractors or workmen, to see which is to lose, for loss there always is in such a game—if not loss of possessions then loss of what one expected or hoped to gain.

When one gets a comprehensive gaze at all this host of human beings pounding down on the cost of building work, or, to express it in another way, **PILING UP** the cost of building work, one cannot help thinking that somebody ought to pay for it, that all these people are entitled to a living out of it and that, in other words, there should be **A WAY FOR ALL TO GET A FAIR SHARE OF IT.**

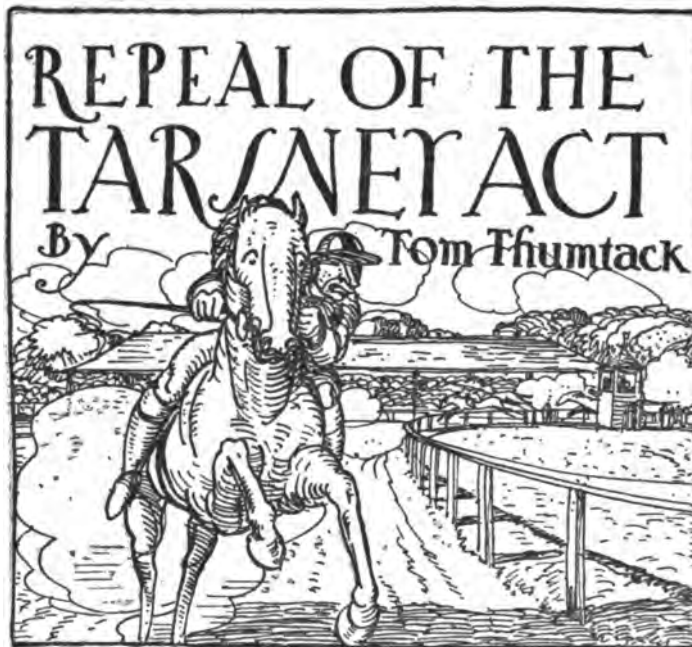
What that way is—well, that is as hard to answer as the riddle of the universe.

I am reminded here of the words of One who believed there was a way. "Consider the lilies of the field, how they grow; they toil not, neither do they spin: And yet I say unto you, that even Solomon in all his glory was not arrayed like one of these."

O ye of little faith, there is a way, a way of prosperity, a way out of the toils and pitfalls of over-done competition.

Theodore Starrett.

ARCHITECT-TONICS



The decease of the Tarsney act overshadowed even Judge Hughes' cure for the pony passion. The bookie may no longer book, 'tis true, but neither may the astute architect back his hefty hunch in Federal competition. Louisiana had her lottery, New York her Belmont Park, architecture her Tarsney act. Each in its own day and way under the smiling eye of Law, wooed the fickle goddess, Chance. "But where are the roses of yesterday?"

In his lust to try his luck the architect must now turn, like commoner clay, to such like pastimes as the national game or good old Wall Street, which like other kinds of poverty are always with us. In every well-conducted game of chance you always find two kinds of players, Mr. Hunch and Professor Mathematics, the guesser and the sure-thing-man. The high birth rate of the former (one every minute) accounts for the prosperity of such pastimes. On our tracks, the sure-thing-man was the bookie till Governor Hughes eliminated him; at Monte Carlo it was the Government, and under the Tarsney act he was our Uncle Sam. As sure as you're alive, the guesser was the architect and Uncle Sam was the professor! And what did he

do, not kill the goose that laid the golden eggs! Governor Hughes sure-thing-men fought hammer and tongs, tooth, nail and pocket-book against the repeal of their race-track act, but the Tarsney act was assassinated by the very one it benefited. It was the most unkindest cut of all.

I have always loved a game of chance. As a boy I played marbles for keeps, and while growing up, learned cards and kindred indoor gambling games. I knew the ponies before I knew a razor and discovered Wall Street with my whiskers. But under Tarsney my profession provided within itself the grandest gamble of them all.

Let's compare the other games of chance with the Federal competition. You'll be astonished at the difference. In the lottery you MERELY buy a ticket; in politics you MERELY place a little bet to clinch the logic of hot argument; in Wall Street you MERELY telephone your broker in what particular way you wish to out-manoeuvre Morgan; with the little wheel you MERELY place your pile according to a most impressive system; in poker you MERELY get a hand and bet a little pile of chips; on the track you MERELY buy a ticket on a hunch not shared by the bookie. I can write a "MERELY" in every single sentence. In not one have you done a stroke of work. If you win, you win easy money; something for nothing. 'Tis true that you and your ilk, the guessers, have paid the professors more than they pay back to the best guesser but that's a rule of the game. Now turn to the Federal competition. You can't use a single "MERELY" in its entire description. We gambling architects, Chas. T-square, Bill Triangle, Tom Thumtack and three-score other plunging pencil-pushers each wagers his cool thousand, that he can pick a parti. Fuss up its facade, enliven its entourage in a way that will clinch the choice. Comes strenuous struggle, drenched in midnight oil. Just before the last train leaves, bleary-eyed and groggy, we pack up our finished drawings and send them to the judgment. No "MERELY" in that sentence, you all will know who've done it.

The decision is duly made in strict accordance with the Queensbury rules of the Institute and under the provisions of an act introduced by one Tarsney, who with Senators Horton and Frawley have enacted all the best-known gambling legislation. Had the odds been posted they would have read not better than four-to-eighty on Bill Triangle, the Favorite, and three-to-eighty on Charlie T-square the White Hope. Let us say just for intimacy, that I, old Tom Thumtack have picked the proper parti and am returned the winner. In my enthusiasm I embrace the office boy, or the stenographer, depending on propinquity and what she looks like. Fifty-nine also-rans have lost their midnight oil, the sweat of their brows and a thousand ill-spared dollars. Have they lost by a clear gap of daylight between first and second? Oh no, they have lost on a matter of opinion, artistic opinion perchance, dictated by a judge's digestion or the particular parisien locus of his previous condition of servitude. So much for the loser, the outguessed guesser.

Now for the winner! I, Tom Thumtack, at eighty-to-one have taken the prize, I've outguessed, out-worked, out-spent three score. I've read the judge's minds! I've discounted their dyspepsia! I've plotted their past performances! I've guessed their probable preferences! I've won! Before the decision I had done a hundred times more work than any other kind of gambler and now do I win easy money? Listen, children, I've won a chance to get a minimum fee for hard work and full value given. No "MERELY" there! With close economy and good management I make a living wage. Easy money, forsooth. There is no other gamble where the chances are half so long or the purses half so short. Uncle Sam's dealer, Tarsney, has stacked the deck on us.

Tarsney had nothing on Mr. Edison, when he invented this way of playing on the gambling passions of a whole profession for the benefit of Uncle Sam. Think of it. Our Uncle says, "Come one and all, spend sixty thousand dollars and I will give one of you a fifty thousand dollar job and make him earn every cent of it by the sweat of his brow." He patents his invention under the title of the Tarsney act. We fall for it like gentle lambs. Tarsney, like the world, the flesh and the Devil has played upon our weakness. Good old man Tarsney. Uncle Sam should wear him as the fairest jewel in his crown.

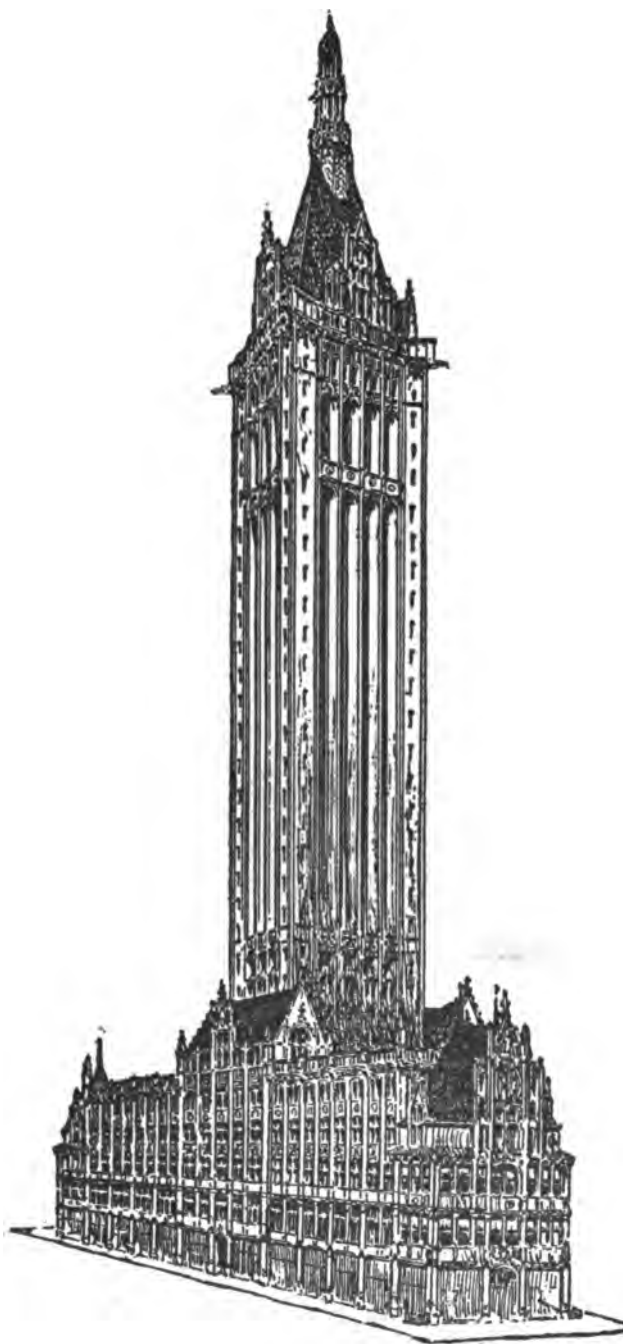


Uncle Sam did wear him for a while, but now no more. Do you ask why? Has he heard the anguished cries of the wives and children of the also-rans? Has he seen the reproachful looks of their butchers and bakers and candlestick makers? Has the secretary of the treasury taken compassion on them and besought Sam to stop the slaughter? Not at all! Uncle Sam has carefully investigated the matter through his Senate and finds out that he is getting stuck! Poor, Uncle Sam! The bookie himself has closed the track! The house itself has pulled the game! Uncle Sam has killed the goose that laid the golden eggs!

In the high heavens of art hangs the repeal's black cloud but every cloud has a silver lining. The sword makes a good pruning hook, the race-track an ideal aviation field. Uncle Sam has killed the goose, 'tis true, but we may kill the Christmas turkey. Architecture sheds a tear, but the architect sheds his threadbare overcoat. The Tarsney act lies mouldering in its grave, but Tom Thumtack goes marching on. Gone is the chance to back our sagacious opinions with a borrowed thousand on a postoffice parti, but gone are the wails of our wives and chiding of our children! Gone is the mad hurry of charette, but gone is the cold grey dawn of the morning after! Gone is the swift action of the drafting force, but gone is its long reaction! Neglected lies the program of competition but not neglected are client and contractor!

The Tarsney act is dead. Dead but not forgotten. Hope springs eternal in the gambler's breast and some day will rise up one greater than Tarsney who will enact a law whereby our Uncle Sam again will get, from the architectural profession, with its hearty consent, something for nothing.





CIRCLE BUILDING WHEN COMPLETED.

Jas. C. Greene, Architect.

THE CIRCLE BUILDING, NEW YORK

JAS. C. GREENE, Architect

From the standpoint of civic improvement, the Circle Building when completed will be a monument well worthy of its site on the north side of Columbus Circle. Architecturally, it will be an adornment as well, visible from many points because of the convergence of streets and avenues and the wide open stretch of Central Park to the east.

From a business standpoint, the building is at an important traffic center. It is estimated that 12,000,000 passengers a year converge at the present time at Columbus Circle; thus it is a proper location for a large office building.

The site covered is from Columbus Circle to 61st Street, between Broadway and Central Park West. The main corridor of the building opens about opposite 60th Street and traverses the building between the avenues. The first story is divided into twenty street-facing stories, while the centre of the plot contains the executive offices of the New York "American." This space opens from the elevator and stair hall and is very impressively finished in Gothic vaulting built of terra cotta, with floors and staircases of Tennessee marble. The room is of two-story height, with a surrounding gallery. At present but the basement and two stories of the building are completed. The stories, being high ceilinged, may be provided with mezzanine galleries and each has additional space in the basement, which opens upon a concourse connecting directly to the subway station.

The second story is divided into 57 offices of varying size, 39 of which have street-facing windows, while the remainder are offices of small size lighted from an interior court. When completed, the building will have three more stories in

the main portion covering the entire site, and there will be twenty or more stories in the tower, rising from the center of the building. Its imposing Gothic design is well presented in the pen sketches and an idea of the appearance of Columbus Circle when the building is finished is shown by the general view.

The corridors of the office floor are finished with Breche Paonazzo marble wainscoting and trim above a 6-inch base of Napoleon Grey marble with the floors of tile laid herringbone pattern. Above the wainscot, windows open into the offices. All these window frames and trim, as well as the doors, are of hollow steel. The doors are designed with a transom above. This partition construction, framed of iron, is only 7 inches thick, including the marble facing.

The steel doors are of welded construction, made of 18-gauge steel. The stiles and rails are made as distinct units, being cold pressed into shape. The hinge stile is reinforced with a channel piece welded in place and both rails are also so reinforced. A separate channel-shaped member which serves to hold the door panel and as a clinch for the panel mouldings, is then welded into place in all stiles and rails. Cork fillers are inserted for sound deadening. The panels are made of two sheets of steel spaced $\frac{3}{16}$ inch apart by an asbestos filling.

In assembling the panels are inserted in the stiles and rails, the joints squared and justified, and then the whole welded together. The stiles and rails are butt-welded and the panels welded into them. The panel mouldings are mitered at the corners and welded and to complete the door, these mouldings are snapped into position, being clinched by the panel supporting members.

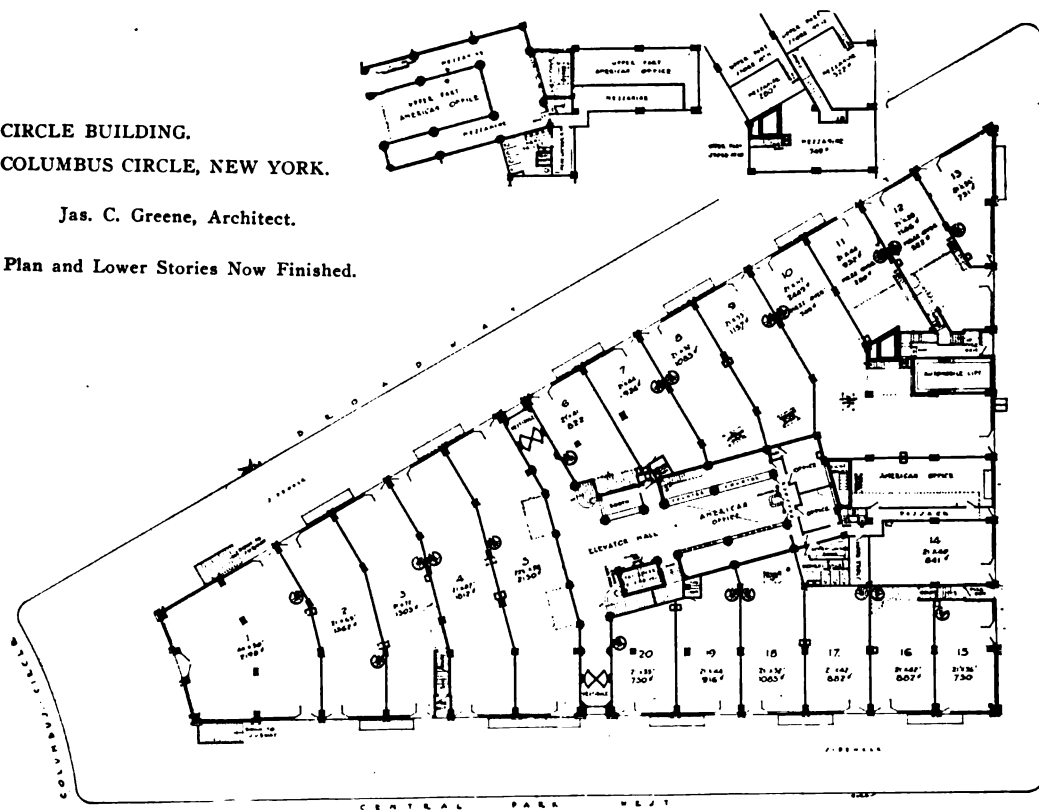




CIRCLE BUILDING.
COLUMBUS CIRCLE, NEW YORK.

Jas. C. Greene, Architect.

Plan and Lower Stories Now Finished.



Builders: Columbus Circle Construction Corporation.
Steel Construction: W. B. Shafer Co.
Cement: The Whitehall Cement Manufacturing Co.
Black Diamond Pitch and Felt Used.
Star Expansion Bolts.
Electrical Contractors: Jandous Electrical Equipment Co., Inc.

Wrought Iron Pipe: Reading Iron Company.
Fireproof Windows: Leonard Sheet Metal Works.
Waterproofing: Northern Waterproofing Co.
Bronze Covered Doors: Reliance Fireproof Door Co.



COLUMBUS CIRCLE, NEW YORK, AS IT WILL APPEAR WHEN THE CIRCLE BUILDING TOWER IS COMPLETED.



CIRCLE BUILDING. CORRIDORS ON FIRST AND SECOND STORIES.

Builders: Columbus Circle Construction Corporation.
 Bommet Spring Hinges.
 Bronze Work: Bach Bros., Inc.



CORRIDORS ON FIRST AND SECOND STORIES.

Interior Marble Work: Cork & Zicha Marble Co.
 Marble Furnished by Tompkins-Kiel Marble Co.
 Hollow Steel Doors and Trim: The Zahner Metal Sash & Door Co.



OFFICE OF THE NEW YORK AMERICAN. FIRST STORY.

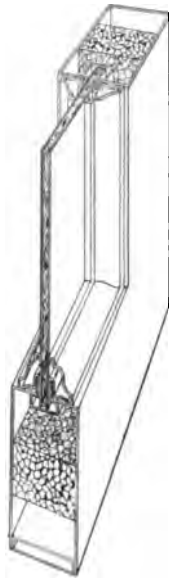
Hollow Metal Doors and Trim: The Zahner Metal Sash & Door Co.
 Interior Marble: Cork & Zicha Marble Co.
 Marble furnished by Tompkins-Kiel Marble Co.
 Cement: The Whitehall Cement Manufacturing Co.

In finishing the doors, they first receive a dipped coat of rust-resisting enamel which is baked on; then a second coat baked on and rubbed smooth. Two coats of mineral colors follow, each baked on separately and rubbed smooth. The doors

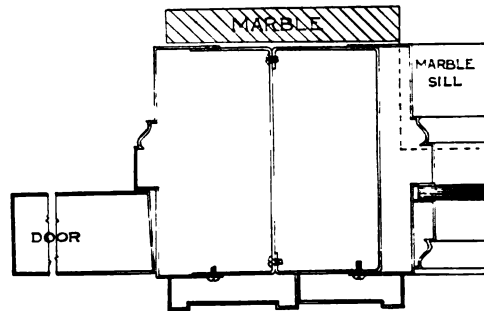
are then hand-grained to imitate mahogany, baked, and finally coated with two coats of baking varnish baked on separately and rubbed to a smooth finish, making seven-coat work. The corridor window frames and transoms are of similar

construction to the doors. At intervals in the corridors fire stops are placed, consisting of fire doors held open on fusible links, placed in pockets so that in operation they completely close off the corridors affected by the fire.

Jas. C. Greene is the architect of the Circle Building and the builder is the Columbus Circle Construction Corporation. The steel construction work was done by W. B. Shafer Co., and water-proofing by the Northern Waterproofing Co. For drain and soil pipe, wrought iron pipe made by the Reading Iron Company was used. The electrical contractors were the Jandous Electric Equipment Co., Inc. The interior marble work was done by the Cork and Zicha Marble Co., the mar-



ble itself being supplied by the Tompkins-Kiel Marble Co. The bronze work was done by Bach Bros., Inc., and the



STEEL DOOR AND JAMB CONSTRUCTION IN
CIRCLE BUILDING.
Zahner Metal Sash and Door Co.

Reilance Fireproof Door Company supplied the bronze covered doors. The Zahner Metal Sash and Door Co. furnished the hollow steel doors and trim, and the fireproof windows were supplied by the Leonard Sheet Metal Works. The elevator equipment is Otis. The cement used was supplied by The Whitehall Cement Manufacturing Co.



ELEVATOR CORRIDOR LOOKING INTO NEW YORK AMERICAN OFFICE.

Builders: Columbus Circle Construction Corporation.
Bronze Work: Bach Bros., Inc.
Otis Elevators.

MASONIC TEMPLE, PITTSBURGH, PA.

JANSSEN & ABBOTT, Architects

In the Schenley Farms District on Fifth Avenue, opposite Schenley Park in Pittsburgh, the new Masonic Temple, recently completed, takes its place among the stately group of structures which makes that section of Pittsburgh architecturally interesting. Ten million dollars has been spent in monumental buildings in this section of Pittsburgh and the new Masonic Temple, which has cost one and one-half million dollars is architecturally a creditable addition to the group.

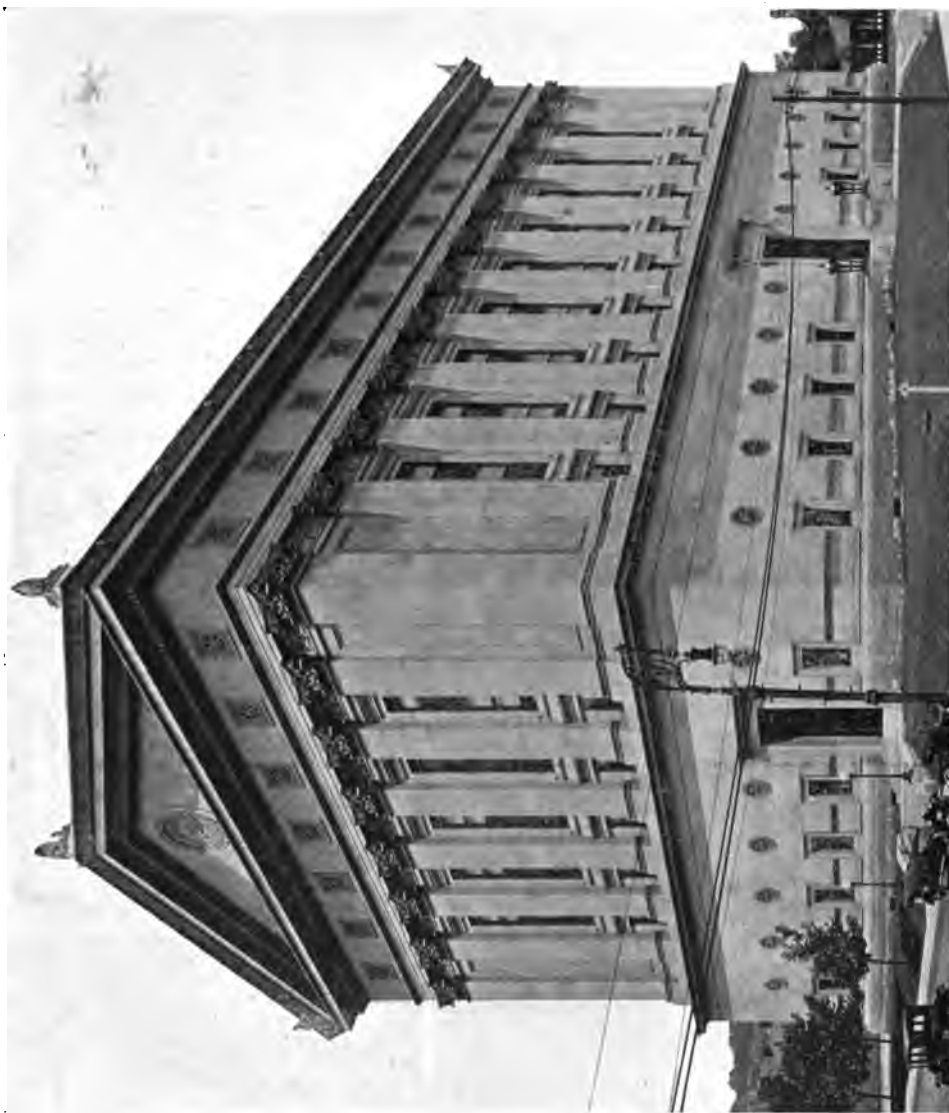
The building occupies a corner site with its main entrance facing Fifth Ave-

nue and with side entrances opening upon the intersecting streets. The exterior design is Classic, developed with Corinthian ornament. The first story forms a high base, above which the temple-like superstructure rises to a pitched roof with pediments at either end. Indiana limestone is the building material. The roof is of tile with copper gutters and with crestings of terra cotta. The height of the structure is about 145 feet and the area covered, 200 feet in length by 130 feet in depth. As there is a gradual slope to the streets, the site has been leveled so as to give an even base line about



MAIN ENTRANCE.

All the photographs accompanying this article were furnished through the courtesy of the Pittsburgh Industrial Development Commission.



MASONIC TEMPLE, PITTSBURGH, PA.

Janssen & Abbott, Architects.

Builders: The George Hogg Company.
 Cut Stone: Ingalls Stone Co.
 Evans' "Crescent" Expansion Bolts.
 Newman Watchclock System.
 Barrett Specification Materials Used.



BANQUET HALL. FIRST STORY.

Marbleloid Floors in Mezzanine Halls.



MAIN HALL AND BANQUET HALL RECEPTION ROOM. FIRST STORY.
Builders: The George Hogg Company.
Bommer Spring Hinges.
Otis Elevators.



COMMANDERY ROOM. SECOND STORY.



CONSISTORY ROOM. FOURTH STORY.

Newman Watchclock System.
Three Manual Electric Organ built by M. P. Moller.

Janssen & Abbott, Architects.

the building, which sets well back from the streets on all sides. The entrances are approached by wide flights of steps, which make up the difference in grade between the base level of the building and the streets.

The main entrance on Fifth Avenue is featured with a wide approach and lighting standards of ornamental design set upon pillars on either side of the steps. The entrance doors are oak carved and ornamented. The main entrance opens directly into the main lobby, a room 31 feet by 84 feet, with a 25-foot height of ceiling. The corridors at either end of this hall lead to the side entrances, making the total length of the hall 200 feet. Near the side entrances at each end are the stairways in wells 12 by 16 feet and at the west end there are two elevators with dimensions of 6x8 feet each. Behind the main lobby, and opening from it, is the banquet hall, a room 117 feet long, 76 feet in width and with a height of 25 feet. This room is flanked on either end by reception and lounging-rooms which are 40x70 feet each and separated from the main banquet hall by folding glass partitions, so that the whole area may be opened into one large room, approximately 76x195 feet. This room is capable of seating 1,600 people and is suitable for the largest banquets. The gallery mezzanine surrounds the main banquet room and is used as lounging space, a museum and a library. Behind the banquet hall, there is a service kitchen which is immediately over the main kitchen in the basement, a room 36x90 feet. In addition to this kitchen and other service rooms, the basement includes space for a future engine room and

a billiard room, bowling alleys and toilet rooms.

The second story is of similar plan to the first with a spacious hall of two-story height. This hall forms a foyer to the commandery room, which occupies the space above the banquet hall of the first story. In addition there are offices on this floor and on the second floor mezzanine are located large locker rooms.

In the third story there are four lodge rooms for the blue lodges, two large rooms, 50x69 feet and two small rooms, 30x57 feet. These rooms are of 17-foot height. In the third story mezzanine there is further space for locker rooms and toilet rooms.

The consistory room is located in the fourth story. The area of this room is a square of more than 70 feet with a height of 36 feet. It contains a gallery of large seating capacity. The stage has a depth from the footlights to the rear wall of 39 feet, an inside width of 53 feet and a height in the stage house of 50 feet. In addition to this auditorium, known as the consistory room and its approaching foyers the lodge of perfection, a room 50x62 feet, is also located on this story. The seating capacity of the auditorium is 1,400 persons.

Designed by Janssen and Abbott, the construction work was done by the George Hogg Company. Barrett Specification materials were used for the waterproofing. In the mezzanine halls and in some of the reception rooms, Marbleloid flooring was used. The building is protected by a Newman watchclock service.

The organ in the consistory room was made by M. P. Moller.

WIDENER MEMORIAL LIBRARY, HARVARD UNIVERSITY

HORACE TRUMBAUER, Architect

The Widener Memorial Library occupies the site of Old Gore Hall, facing Massachusetts Avenue and Harvard Yard at Cambridge. Mr. William C. Lane, the Librarian of the Harvard College, has written a description of the building which appears in the Harvard Alumni Bulletin. We quote parts of this clear description to accompany our illustrations.

"Stated in general terms, the building is a hollow square, about 250 by 200 feet on the outside. The inner courtyard—110 by 100—is divided lengthwise by a central section devoted to the Widener Collection, leaving light-courts on each side measuring about 110 by 28 feet. Three sides of the square are occupied for the most part by book stacks. The fourth side (to the north) contains the great Reading Room, several special reading rooms, and administration rooms of various kinds. The upper story, carried on the top of the stack, is likewise occupied by special libraries and seminary rooms.

"The northern facade with its broad flight of steps surmounted by massive columns, faces the Yard. Three high portals under the colonnade give admission through doors of handsome wrought iron and glass to a vestibule finished in Rosatto marble, at either end of which is a dedicatory tablet, one giving the date of Widener's death 'upon the foundering of the steamship Titanic,' and the other stating that his mother, Eleanor Elkins Widener, has erected this building as a memorial. From this vestibule one enters a dignified hall thirty-six feet broad and fifty feet in length, the walls of which are lined with Botticino marble of a warm yellowish gray, beautifully but not conspicuously veined. Two rows of columns down the length of the hall, and corresponding pilasters against the walls, are of veined statuary marble. Straight ahead, at the further end of the hall, is a broad staircase of the same Botticino marble, leading at its first landing to the Widener Memorial rooms.

"The first of the Widener Memorial Rooms is a spacious reception room with semi-circular bays at the four corners, and high arched alcoves with windows at the right and left, giving the effect of an octagon. It is covered by a domed ceiling, is lined from floor to cornice with a warm white Alabama marble, and is decorated with fluted columns bearing graceful capitals. The second room is the Library, which is finished throughout in carved English oak. Here Harry Widener's books will find their resting-place, and his portrait will look down from over the great fireplace.

"From the foyer at the head of the main staircase we may pass directly into the Reading Room, which occupies the full length of the northern side of the building; or, turning to the right, we may enter the Catalogue and Delivery Rooms, or, on the left, pass through a lobby (connecting with the elevator and with the stairs to the third floor) into the Periodical Room. The great Reading Room is an impressive room, 192 feet long and 42 wide. The arched and coffered ceiling, with sky-lights of soft-colored glass, is 44 feet high. Lofty columns separate the main body of this room from the portions at either end which have a lower ceiling. At one end doors communicate with the Catalogue and Delivery Room, and at the other end a door opens into the Periodical Room. The tables have seats for 264 readers, to which the Periodical Room adjoining adds 28 more, making accommodations for 292 in all.

"The Delivery Room is divided into two portions by handsome columns of Sienna marble, one part of the room being devoted to the catalogue cases, and the other portion being in front of the delivery desk. This is at the side of the room, and the working space behind it communicates directly with the stack. There is also a small Bibliographical Room adjoining for such works of bibliographical reference as best supplement the card catalogue.



CARVED WOOD MANTEL IN ROOM CONTAINING THE WIDENER
MEMORIAL COLLECTION.
Interior Decorations: White Allom & Co.



THE CATALOGUE ROOM FINISHED IN OAK PANELING AND
FURNITURE.
Lighting Fixtures: Sterling Bronze Co.
Interior Marble: Batterson & Elsele.



HARRY ELKINS WIDENER MEMORIAL LIBRARY AT HARVARD UNIVERSITY.

Horace Trumbauer, Architect.

Plumbing: W. G. Cornell Co.
Heating System: Warren Webster & Co.



ENTRANCE HALL. COLUMNS OF VEINED STATUARY MARBLE WITH WALLS OF BOTTICINO MARBLE.

Interior Marble: Batterson & Eisele.
Otis Elevators.



STAIR HALL OF BOTTICINO MARBLE LEADING TO WIDENER MEMORIAL ROOM AND SECOND STORY.

Horace Trumbauer, Architect.

"The book-stack is entered from the north side of the building, through the Delivery Room and Periodical Room on the second floor, and through the Catalogue Department Room and the Treasure Room on the first floor. It comprises eight floors as finished and equipped

at the present time, with a possibility of extending the stack downward by two floors into the present basement. Its distinguishing characteristic is the provision of commodious reading-stalls along one side throughout the length of the stack on each of the six upper floors, the



WIDENER MEMORIAL HALL IN WHITE ALABAMA MARBLE.
Interior Marble: Batterson & Eisele.
Lighting Fixtures: Sterling Bronze Co.

whole number of these stalls being 300. The total capacity of the stack when finished will be 2,200,000 volumes, with room for 163,000 volumes more on shelving already installed in other parts of the building.

"Another distinguishing characteristic of the new Library is the provision of private studies for the use of professors. There are about seventy of these studies, all having good light, and being from 10 x 12 to 12 x 15 feet square.

"The third floor of the building, which rests upon the top of the stack, contains thirty-four rooms which will be used for special collections and as seminary rooms, offices and studies.

"It remains to speak of the ground floor, which is entered directly from Massachusetts Avenue on the south side of the Library, and is entirely above ground though masked on the north by the im-

posing flight of steps which leads up to the main entrance of the Library on the floor above. On this ground floor is to be found, on the west side, a special reading room for elementary work in history and economics, corresponding to the reading room which has been hitherto maintained in Harvard Hall. This will have its independent entrance on the west side and will provide for 166 readers."

Horace Trumbauer designed the library building, which was built by George F. Payne & Co. The W. G. Cornell Company were the plumbing contractors and the heating system was installed by Warren, Webster & Co. Interior decorations were done by White Allom & Co. Reading tables were supplied by the Shaw Furniture Company, and lighting fixtures by the Sterling Bronze Company. The interior marble work was done by Batterson and Eisele.



GENERAL READING ROOM IN SECOND STORY.

Reading Tables: Shaw Furniture Company.
Interior Marble: Batterson & Eisele.



GENERAL OFFICE BUILDING FOR THE TEXAS CO., HOUSTON, TEXAS.

Warren & Wetmore, Architects.
Balcom & Darrow, Structural Engineers.



Builders: George A. Fuller Co.
Otis Elevators.
Cutler Mailing System.
Chicago Spring Butts.
Evans "Crescent" Expansion Bolts.

Hollow Tile: Athens Fire Brick Co.
Electrical Contractors: J. Livingston & Co.
Refrigerating Plant: The Vilter Manufacturing Co.
Painting and Decorating: The Barker Painting Co.



BUILDING FOR THE TEXAS CO., HOUSTON, TEX.

WARREN & WETMORE, Architects.

The Texas Company Building at Houston, Texas, has street frontages of 102 and 132 feet. It is thirteen stories high with a basement below the entire floor area and sidewalk and a sub-basement in part for the mechanical plant. The arcade runs on two sides of the building covering the sidewalk and this is built of limestone with a Texas granite base. The main walls are of face brick with limestone pilasters, with terra cotta used for trim and the colonnade which begins at the eleventh story.

Spread footings at a depth of 27 feet below the curb carry the structural columns. The columns and floor construction are fireproofed with concrete and the interior partitions are of hollow tile.

The power plant, at present used only for heating, consists of two 150-horsepower boilers burning oil fuel. The water supply of the building comes from an artesian well, 1,400 feet deep, located in the basement. The water is pumped to a surge tank in the basement and thence to a service tank of twelve thousand gallons capacity in a pent house on the roof. The drinking water is cooled by a six-ton refrigerating plant and service

pipes run to fountains on every floor. There are three Otis Traction elevators. The woodwork throughout the building is of selected white oak, except in the twelfth story, which is used for the executive offices of the company. Here mahogany trim is used, treated, however, with acid and oil instead of being varnished. The Texas Company occupies all stories above the third for their various departments.

The lighting system of the building is of the indirect type throughout. The arcade at the base and the colonnade at the eleventh story can be especially illuminated at night, the effect of which is rather exaggerated in the illustration presented.

The George A. Fuller Company were the builders, and Balcom and Darrow the structural engineers. J. Livingston and Company were the electrical contractors. Hollow tile made from fire clay was supplied by the Athens Fire Brick Company, a total of seventy-five thousand square feet being used in the building. The refrigerating plant was made by the Vilter Mfg. Co., and painting and decorating were done by the Barker Painting Co.



BROOKS BROTHERS' BUILDING, 44TH STREET AND MADISON AVE., NEW YORK.

Mason Contractors: Fullam Construction Co.
 Electrical Contractors: J. Livingston & Co.
 Cut Stone Contractors: George Brown & Co.
 Cutler Mailing System: Stanley Butts.
 Copper Work and Cornices: Architectural Metal Works.
 Waterproofing and Tile Roofing: Northern Waterproofing Co.
 Barrett Specification Materials Used.

La Farge & Morris, Architects.
 Clark, MacMullen & Riley, Electrical.
 Heating and Mechanical Engineers.



MADISON AVENUE ENTRANCE IN LIMESTONE AND MARBLE.

Interior Marble: George Brown & Co.
Diamond Hangers.
Tables: Joseph Szabo.
Cement Floors and Walks: Harrison & Meyer.

The new Brooks Brothers Building occupies the northwest corner of 44th Street and Madison Avenue. The dimensions of the building are about 75x100 feet. There are ten stories. The first three stories and the two stories at the top are of limestone, with the five intervening stories finished in red brick. There are two entrances near the centre of each side and the two passenger elevators are located on the north wall of the building, opposite the 44th Street entrance. The entire building is occupied by the various departments of Brooks Brothers, and the first five stories are used for sales rooms with the upper five stories used for work and storage rooms. At the far end of the building on the 44th Street side there is a

service entrance and hall with two freight elevators, service stairway and fire stairway.

The architects were LaFarge and Morris, and Clark, MacMullen and Riley were the electrical, heating and mechanical engineers. The Fullam Construction Co. were the mason contractors, and George Brown and Co. were the cut stone contractors for the exterior and also did the interior marble work. The Northern Waterproofing Co. did the waterproofing and tile roofing; The Architectural Metal Works did the copper work and cornices; and Harrison and Meyer the cement floors and walks. J. Livingston and Co. were the electrical contractors. Joseph Szabo equipped the sales rooms with tables.



RESIDENCE OF MR. F. C. SAYLES AT IRVINGTON ON THE HUDSON, N. Y.

Lighting Fixtures: Sterling Bronze Co.

Rowe & Smith, Architects.

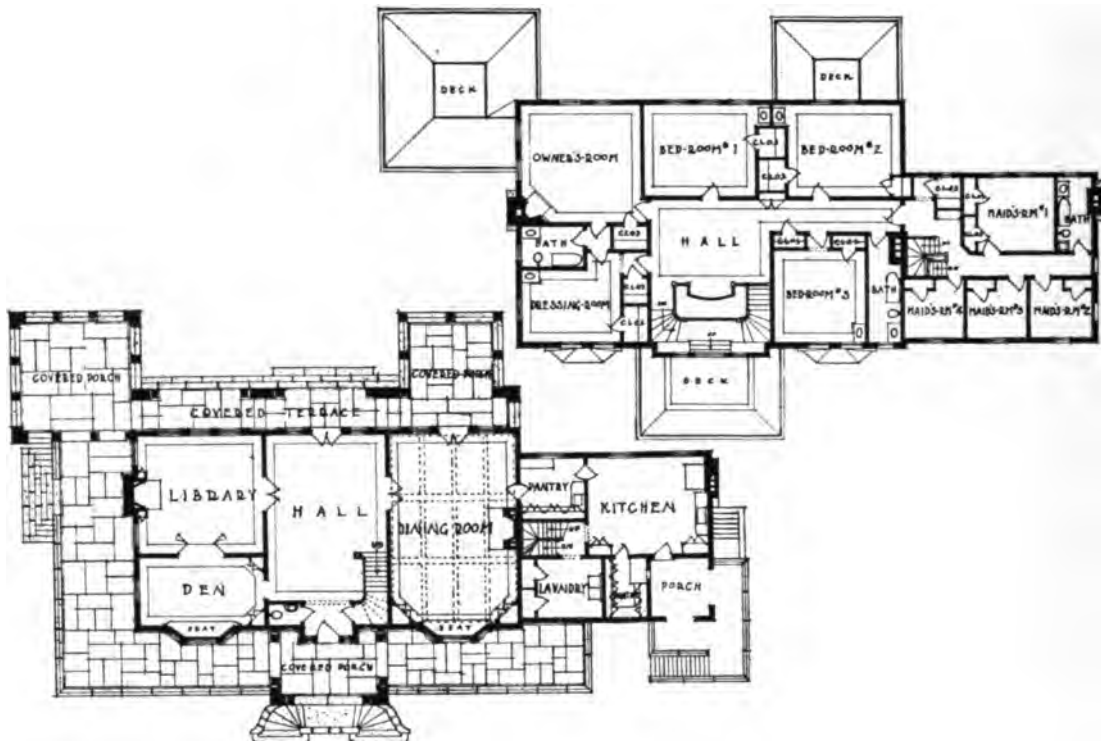
RESIDENCES

DESIGNED BY

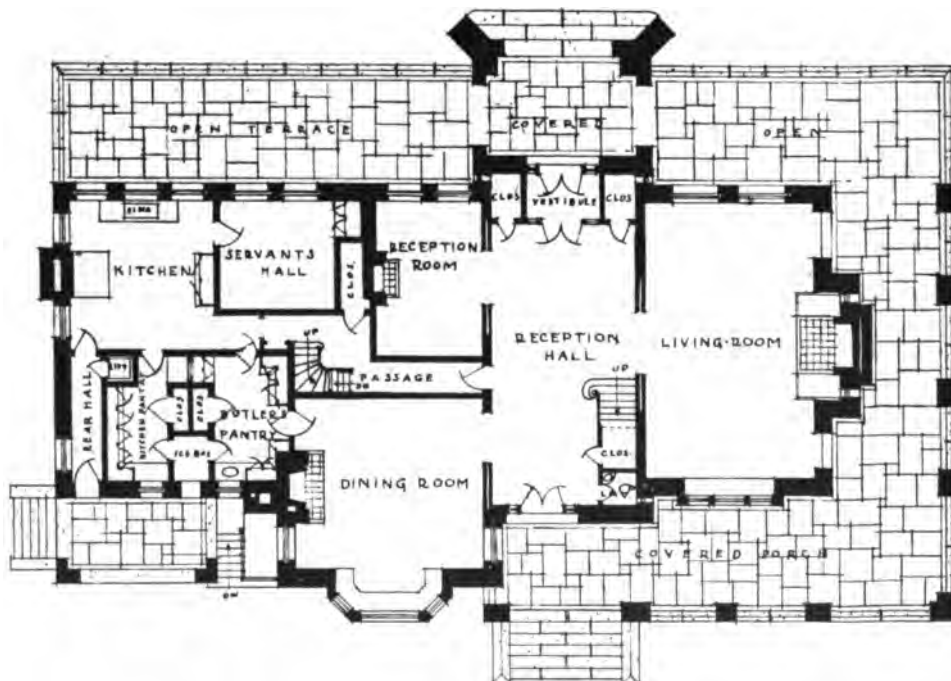
ROWE & SMITH, Architects



TERRACE ENTRANCE. RESIDENCE OF MR. F. C. SCHMIDT.



PLANS OF THE RESIDENCE OF MR. F. C. SCHMIDT.



FIRST STORY PLAN. RESIDENCE OF MR. E. H. MULFORD.



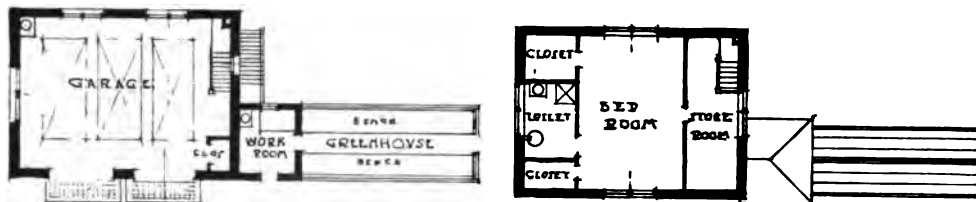
RESIDENCE OF MR. F. C. SCHMIDT, PLEASANTVILLE, N. Y.



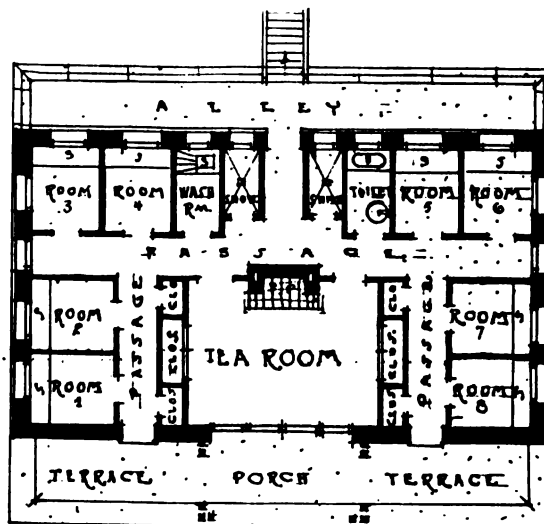
RESIDENCE OF MR. E. H. MULFORD, GREENWICH, CONN.

Heating Plant: Pierce, Butler & Pierce Mfg. Corp.

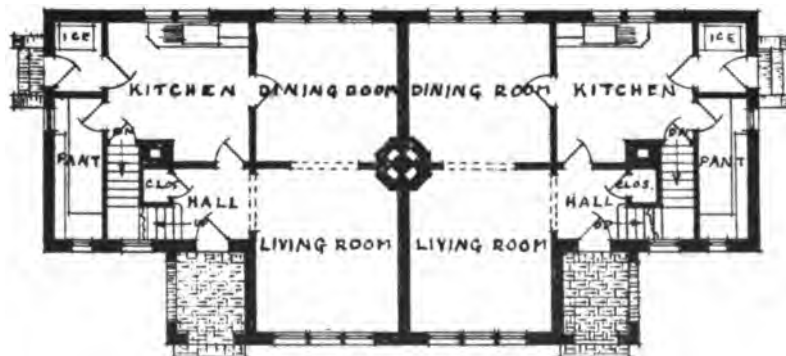
Rowe & Smith, Architects.



PLANS OF GARAGE AND GREENHOUSE, RESIDENCE OF MR. E. H. MULFORD.



PLAN OF BATH PAVILION AND TEA ROOM.



PLAN OF WORKINGMEN'S COTTAGE. ORMSTON, ESTATE OF MR. J. E. ALDRED, LOCUST VALLEY, L. I.



GARAGE, RESIDENCE OF MR. E. H. MULFORD.



BATH PAVILION AND TEA ROOM AT ORMSTON.

Rowe & Smith, Architects.



WORKINGMEN'S COTTAGE AT ORMSTON.

Landscape Gardeners: Olmstead Bros.



THE STABLES AT ORMSTON.



THE GATE LODGE AT ORMSTON.

Rowe & Smith, Architects.



DETAILS OF THE GATE LODGE AT ORMSTON.

Rowe & Smith, Architects.

September, 1915

ARCHITECTURE AND BUILDING

PERIODICALS RECEIVED FROM Engineering Library
OCT 10 1915
UNIV. OF MICH.
LIBRARY
The Man That Passed the Plate

By Theodore Starrett

The Burke Foundation for Convalescents

McKim, Mead & White, Architects

Utah State Capitol, Salt Lake City

Richard Kletting, Architect

Restaurant Lighting

By F. Laurent Godinez

Two Detail Plates

Several Country House Designs

Published by
The William T. Comstock Company
New York

20 c. a copy.

\$2.00 a year.



"Globe" Ventilators

combine highest efficiency with strength and durability.

Made in heavy galvanized iron, copper and Toncan metal and with glass tops when desired.

Send for Model Demonstrating Operation

Globe Ventilator Co.

Troy, New York



A $\frac{3}{4}$ " inside facing of Impervite mortar will waterproof any leaky cellar or pit. Satisfaction guaranteed or money refunded.

SPECIFY IMPERVITE

It is the only Asphaltic Emulsion Waterproofing Compound. Practically all others contain Calcium-Stearate or other soap.

IMPERVITE IS GUARANTEED TWICE AS EFFICIENT

(See page 45 of Sweet's 1915 Catalog, or send postal for free "Book 91" containing valuable hints.)



The Reputation of "F-S" Products has a Solid Foundation

Our claim to quality for "Alba Flint Enamel" rests on fifty years of giving satisfaction. You can safely specify it for inside and outside work. It is easy-flowing and dries with a permanent gloss. One coat is equal to two of many other enamels, and it is durable.

FELTON, SIBLEY & CO., Inc.

Manufacturers of Colors, Paints and Varnishes since 1863

136-140 North Fourth Street,

Philadelphia

(117)

ARCHITECTURE AND BUILDING

A Magazine Devoted to Contemporary Architectural Construction

WILLIAM P. COMSTOCK
Managing Editor

THEODORE STARRETT
Contributing Editor

Volume XLVII

SEPTEMBER, 1915

Number 9

One of the tightest little employer-employee combinations that ever sicked a walking delegate on an offending employer was affected with a complaint very common to combinations of the sort. It was engaged in trying to keep a certain business connected with building from going to the demnition bow-wows. It had traded its soul to the devil and was paying the price by the regulation building practice of giving the mechanics anything that they asked in the way of wages, hours and so forth. It was doing many things that have since been declared illegal and for which a number of business men in another walk of life have been compelled to serve terms in prison.

No, it isn't the president of a certain rich manufacturing concern out in Ohio that I am talking about. He had too much money. He kept out of prison.

And it isn't of a trade whose brightest, shiningest light in the shape of a walking delegate was sent "up the road" for two years, less allowances, for doing something that he was requested to do by the employers of his union—it isn't of this trade that I am talking.

It was another gang, and they were up to the regulation tricks and I knew it.

What was my surprise on going to a church service one Sunday to hear a famous divine who has himself stirred up more trouble among these foolish practitioners of illegal acts than any dozen men living—to attend the service there and find passing the plate, all dressed up in a frock coat and striped trousers, with kid gloves on his hands and a flower in his buttonhole, the secretary of the association.

I figured it out at last that he didn't know any better. I wonder if he is alive and knows any better now.

But the walking delegate game passed out of existence, as I think I have remarked several times in these pages, and if there were any who profited by it, it was only because they "got out" before the storm.

"When the Devil was sick, the Devil a monk would be;

But when the Devil was well, the devil a monk was he."

Meaning that when things get bad and stay bad, steps are taken to cure them. The minute a let-up occurs, then come the temporizers and opportunists to nurse things along—to compromise with the devil and heal the skin over the sore, to hide it and rot the system in secret till it breaks out somewhere else.

While the compromising is going on the business people and the conservatives, all who have interests at stake and are opposed to "new things" are loud in their praise of the stand-patters, and louder in their abuse of reformers until at last it breaks out in a terrible war—like the Civil War—like the Revolutionary War—like the French Revolution—like the Great War in Europe for all that some people know.

And there's an army of heelers and camp followers and lawyers that trail along as servants and boot lickers of the class that's on top and many and many a one passes the plate in Dr. Barkhurst's church and prays to God every morning and every night to bless him and everybody else.

They don't know any better.

They don't wake up until things get so bad that there is a revolution or a war.

I am tempted to tell here of a certain lawyer that I know who used to go to church early in the morning to "ask his God," as he once expressed it to me, for guidance in this or that crisis.

This lawyer had a case that I knew of where he took what I thought was an entirely wrong and unjust view of matters and deliberately attempted to persuade the judge before whom the case was to be tried to see it the same way. I reasoned with this lawyer and he only got mad at me. He said finally, to shut me up, that Judge Blank, the trial judge, was under many obligations to ex-Judge So-and-So—a prominent jurist who had left the bench to accept a partnership at the head of the firm with this pious lawyer that I am telling you about.

"Judge Blank," said he, "will do anything for my partner"—meaning ex-Judge So-and-So—"and you can just leave this case to me."

Well, to my own everlasting pride, the judge paid no more attention to the influence of the famous ex-Judge than he would to the sighing of the wind.

Perhaps some wiseacre will say that when all judges are like Judge Blank all business will be done at a profit.

To be continued.

Theodore Starrett.



BURKE FOUNDATION FOR CONVALESCENTS WHITE PLAINS, N. Y.

McKIM, MEAD & WHITE, Architects

The site of this institution is sixty acres of ground, sloping to the southwest, situated at White Plains, twenty miles from New York City. The buildings, when the group is completed, will extend over about fifteen acres. The plan of the completed scheme shows a central rectangular court surrounded by the buildings and bounded by loggias. To the north and south of this court are groups of cottage buildings for the housing of the patients; these are well separated and connected by loggias. There are open spaces of from sixty to one hundred feet between all buildings. The north group of five cottages is for male patients and the south group of the same number for female patients.

At the west side of the rectangle is the administration building at the centre, with the superintendent's house at the right and the hospital building at the left. At the east side of the rectangle is the dining hall and service building and immediately behind that the power house with a separate laundry building at the right. In addition, at the north and south sides of the rectangle there will be two buildings, an

assembly hall and a nurses' home and women's building. The buildings at present erected are the administration group with hospital and superintendent's house, the dining hall, power house and laundry building and two cottages each for male patients and female patients. The loggia surrounding the central rectangle and the extensions from it connecting the cottages north and south have also been built.

The administration building is of three stories and contains the usual business offices, visitors' room, library, occupation rooms and surgical dressing rooms, laboratory, barbershop, etc. The hospital to the left, a two-story building, contains several small wards of three beds each. To the right, the superintendent's house, is a building of similar proportions, balancing the design of the central group of buildings. The buildings are substantially built of brick with terra cotta and marble trim with rubble stone basements. The design is simple colonial and the construction is fireproof throughout.

The service building, at the opposite side of the rectangle, immediately behind



THE ADMINISTRATION BUILDING.

McKim, Mead & White, Architects.

Builders: M. Reid & Co., Inc.
 Rubble Stonework: Charles P. Galardi.
 Blue Stone: American Blue Stone Co.
 Plumbing Contractors: James McCullagh, Inc.
 Mott Hospital Sanitary Appliances.
 Ornamental and Structural Iron: Charles H. Fox.



the administration building, provides grouped dining rooms for the patients. The kitchen is at the centre, with serving pantries at either end, opening into the dining halls in the two end wings. These dining halls contain a centre lounging hall with a dining room at either side, so that the patients are separated, providing two dining rooms for the male patients and two for the female. The seating of the patients is at small tables, so that from two to no more than six or eight need sit down together. Upon the second story of the dining hall building are further din-

ing rooms for doctors, nurses, clerks and other classes of help, and also bedrooms on this and the third floor for the use of the staff and nurses.

The unit cottage for the patients is a two-story building with provision for twenty patients, ten on each floor. The rooms are arranged on the north and south sides of a central corridor. There are eight single rooms, two rooms with two beds and two rooms with four beds each. There are also on each floor toilet and bathrooms, a nurses' room and a pantry. This is a flexible arrangement,



DINING HALL AND SERVICE BUILDING.

Rubble Stonework: Charles P. Galardi.
Cement Floors and Walks: Denton & Co.

Brick: Carter, Black & Ayers.
Byers Pine for Plumbing and Heating Lines.



DINING ROOM FOR MEN.



DINING ROOM FOR NURSES.

Electrical Contractor: Albin Gustafson Co.
Plastic Linoleum Floors: American Flooring Co., Inc.
Plumbing Contractors: James McCullagh, Inc.



HALL IN ADMINISTRATION BUILDING.



SITTING ROOM IN PATIENTS' COTTAGE.

Ornamental and Structural Iron: Charles H. Fox.

McKim, Mead & White, Architects.

which gives an opportunity for the classification of patients and adaptation to their peculiarities, conditions and moods, a most important feature in convalescent care. At the ground level, surrounding each cottage, is a concrete terrace, ten feet wide. At the end there is a loggia opening from the second floor corridor, which may be enclosed with glass for a winter sun-parlor. At the opposite end of the building is a porch with a balcony above it sheltered by an awning. The rooms are provided with low window sills, giving an outdoor view to a patient from a reclining position. Ample closets are provided for the storage of the personal property of every patient in their rooms. Each floor of each cottage has a sitting room with a fireplace and comfortable equipment of chairs, tables and a piano.

The scheme of connecting all the buildings with covered passage-ways or loggias gives sheltered connection between all the buildings, which is a great advantage for patients who are somewhat active. Further, these loggias may be easily enclosed with glass at different points, so as to make excellent sheltered sun-parlors. Below the loggia, also connecting all the buildings, are subways, so that in extremely inclement weather the patients may move from their cottages to the administration building, dining hall, etc., entirely protected from the weather.

The mechanical plant, which is housed in a power house building at the rear of the dining hall building, supplies mechanical service to the entire group of buildings.

There are three Babcock & Wilcox boilers of 200-h.p. each, operating at 100 pounds pressure. These are fired by Murphy automatic stokers, which are supplied with coal by an industrial track and car system which brings the coal from large coal pockets at the rear of the power house. The cars are elevated to the stoker deck and the coal dumped from hoppers in the bottom of the cars direct into the stokers. There are scales for weighing the coal when in the cars, so that a complete record is kept of the coal consumption. The boiler feed is from two Worthington Duplex outside end packed 9 x 5 x 10 pumps with a supplementary feed consisting of a Monarch automatic injector on each boiler.

The main engine, of 250-h.p., is an Allis-Chalmers, direct connected to a Sprague 150-kilowatt, three-wire direct current generator. The small engine is a Fleming direct-connected to a 150-kilowatt Sprague generator.

The power house is connected with all the other buildings by subways. There are subways north and south running under the loggias at either side of the group to the administration group. A subway runs under these buildings and also north and south under the patients' cottages. Other subways connect with the dining hall building and with the laundry building. In these subways all the service pipe and cables are carried, at all time accessible and well protected from the weather. There are over five miles of pipe and over 750 valves in the power house and subways.

The service to the buildings consist of the heating system, the hot water supply, cooled drinking water supply and electric current; also steam supply to the kitchen and laundry.

The electric current is distributed from the main switchboard, there being a feeder panel to each building. Beside the switchboard there is a gauge board, on which there are the main boiler gauges and recording instruments for the water supply, heating system and reduced pressure steam service to the laundry and kitchen. Foxboro instruments are used.

The heating is accomplished by a hot water system. There are two circuits and the temperature regulation for the entire hospital group is regulated direct from the main engine room. The water is circulated by Alberger turbines through heaters around through the buildings and back to the turbines. On each circuit there are Venturi recording meters and the system is cushioned by two air tanks. The temperature is automatically controlled by Johnson system of thermostats, subject to regulation from the engine room.

For the domestic water system there is a six-inch main from the city service. The domestic hot water service is a return system, a duplicate of the hot water heating system in its arrangement. It is operated by two 2-inch Alberger rotary circulation pumps which circulate the water through heaters, thence through the service and return lines. For economy, the

hot water service for the most part is fed from the ice machine condensers by a 6 x 4 x 6 Worthington pump to the Alberger rotary circulators.

The drinking water comes from an artesian well, 770 feet deep, being pumped up by a Deeming pump into an air cushion tank to equalize the pressure, and thence by means of a Deeming circulating pump to a cooling tank and then to the service and return lines.

The ice machine is a Carbondale absorption type with seventeen and one-half tons capacity. It freezes two and one-half tons a day of cake ice and supplies refrigeration for the dining halls. The brine is circulated by two Worthington duplex pumps, 7½ x 4½ x 10.

McKim, Mead & White were the architects; the builder was M. Reid & Co., Inc., and James McCullagh, Inc., was the plumbing contractor. The hospital sanitary appliances were furnished by the J. L. Mott Iron Works and the wrought iron pipe for the plumbing and heating lines was supplied by A. M. Byers Company.

Albin Gustafson Company were the electrical contractors. Charles H. Fox did the ornamental iron work as well as the structural iron work.

The rubble stone work of the foundations and loggias was done by Charles P. Galardi. The blue stone was furnished by the American Blue Stone Company and the cement floors and walks were laid by Denton & Company.

A total of about 70,000 square feet of plastic linoleum is laid in the different buildings; this substance being made and laid by the American Flooring Company. The ingredients of this material are mainly cork and oil, combined and laid to make a flooring as near linoleum as it is possible to obtain in a plastic material. There are no joints or crevices in these floors and the surface is impervious and easily kept clean. The colors of the floors are varied to harmonize with the decorative schemes of the various rooms in which they are laid. The large proportion of cork in the mixture makes the floor surface warm and prevents slipperiness. The floor is also fire resistant.



ENGINE ROOM IN POWER PLANT.

Foxboro Instruments on Gauge Board.
Byers Pipe for Plumbing and Heating Lines.



UTAH STATE CAPITOL. SALT LAKE CITY, UTAH.

Contractors: James Stewart & Co., Inc.
Terra Cotta: The Northwestern Terra Cotta Co.

Richard Kletting, Architect.

UTAH STATE CAPITOL

RICHARD KLETTING, Architect

In plan, the Utah State Capitol consists of a central structure supporting the dome with long wings extending from either side of the central structure. At the front and at the back, there are short wings extending from the central portion. There are four stories in the main building and the equivalent of six or seven others in the tower and dome. The dome is carried upon four masonry pillars.

The ground story has four entrances at the ends of the transverse axes. The corridors extend across the building from end to end and side to side between these entrances. The rooms are lined along the outer walls and furnish space for different commissions, various offices, rooms for the service of the building, a cafe and a number of vaults and store rooms.

Stairways lead from the left and right vestibules and from the rear vestibule to the first story. Also this first story is reached by the wide entrance stairway which forms the principal approach to the building. Above the first floor the central rotunda with its two transverse arms extends the full height of the building. Approaching the building from the front through the main vestibule the entrance is into the central rotunda. At the end of the wing to the left a grand stairway leads to the House wing in the second story. To the right, a similar stairway leads to the Supreme Court and immediately opposite the main entrance, a stairway leads to the Senate Chamber. Behind the columns of the first story is a public corridor completely surrounding the rotunda. Within this corridor there is an auxiliary corridor which also surrounds the building and gives access to the various offices. In the left wing are the Governor's offices, a State reception room, the Board room and the Auditor's department. In the right wing are the offices of the Attorney General, Commissioner of Insurance, Superintendent of Public Instruction and the Treasurer.

In the second story, the general arrangement is similar to that of the first story.

A public corridor surrounds the building within the line of the columns and within this is an auxiliary corridor giving access to the private rooms. The House is at the left and the Supreme Court at the right and the Senate in the rear central wing. In the House wing are House committee rooms at the front and the Senate committee rooms at the rear of the building. In the Supreme Court wing the clerks' and judges' chambers are in the front and the library at the rear. In the Senate wing there are meeting rooms, lounging rooms, etc., surrounding the Senate Chamber. This entire story is thus devoted to the executive departments and is segregated from the other stories, although furnished with ample means of approach from the rotunda floor below.

In the third story the arrangement is similar to the second story. However, there is no auxiliary corridor and the space occupied by the public and auxiliary corridors on the floors below is all thrown together into a wide space. This area behind the balustrade overlooking the rotunda is open to the roof under the domes and arches and will give fine vistas about the building and a splendid opportunity to see the mural paintings which will some day decorate the walls. This story is devoted to the public for visitors and sightseers. Upon the gallery will be exhibitions of sculpture and at one side a large art gallery is provided. There will be some offices, however, including the office of the State Engineer. Approached from the surrounding corridor of this floor are the galleries overlooking the Senate Chamber and the House and Supreme Court.

The various administrative chambers are all illuminated by overhead light through ornamental glass ceiling lights.

The frame of the building, including the floor system, the roof slabs and the construction of the dome is of reinforced concrete with the exception of the circular roof portion of the dome, which is of structural steel covered with a reinforced



UTAH STATE CAPITOL. ROTUNDA, LONGITUDINAL AXIS.

Contractors: James Stewart & Co., Inc.
Ornamental and Plain Plastering: Lyden & Bickel.
Marble: The Blue Ridge Marble Co.

concrete slab and finished with a covering of copper. Above the ground floor, the floor slabs are a combination hollow tile and concrete system. The exterior of the building from the ground level to the main roof is of local granite, quarried in Little Cottonwood canyon within twenty

miles of Salt Lake City. The exterior of the dome from the main roof up to the top of the columns is cement composition in imitation of granite. The column capitals and the drum immediately below the dome with the ornamental work is of terra cotta.



UTAH STATE CAPITOL, ROTUNDA, TRANSVERSE AXIS.

Richard Kletting, Architect.



UTAH STATE CAPITOL. MARBLE STAIRWAY FROM ROTUNDA.

Contractors: James Stewart & Co., Inc.
Marble: The Blue Ridge Marble Co.



UTAH STATE CAPITOL, MARBLE STAIRWAY FROM ROTUNDA.

Marble: The Blue Ridge Marble Co.
Marble from Quarries of the Georgia Marble Co.

Richard Kletting, Architect.

The interior is largely finished in marble, the greater portion of which is Cherokee marble from Nelson, Ga. The marble used in the interiors of the Senate, House of Representatives, Supreme Court, State Reception Room and first story entrance vestibule is Utah marble. The vestibule and Senate are of Utah white Travertine or Onyx and the other portions are brown colored or Bird's Eye marble from local quarries. About the main corridors in the rotunda there is a considerable amount of cream colored oolitic limestone which comes from Ephraim, Utah. The Georgia marble is most extensively used and contributes greatly to the ornamental effect of the interior.

At the present time, the contractors are actively engaged in grading the grounds and laying out the park in which the Capitol Building stands. When this is

completed, the building will appear in a most appropriate setting. At the rear of the building and at some distance from it, but within the Capitol grounds, is the power house which is connected with the Capitol Building by a subway. This power house supplies all service for the building—heating, lighting, water supply, etc.

Richard Kletting is the architect and the general contract for the building is held by Jas. Stewart & Co., Inc. The Northwestern Terra Cotta Company supplied the architectural terra cotta in the dome. The Cherokee Georgia marble was supplied by the Blue Ridge Marble Company. The plastering contract was held by Lyden & Bickel. In the equipment of the building there are Otis elevators, Cutler mail chutes and a watch-clock service installed by the Newman Clock Company.



UTAH STATE CAPITOL. HOUSE OF REPRESENTATIVES.

Ornamental and Plain Plastering: Lyden & Bickel.

Star Expansion Bolts.

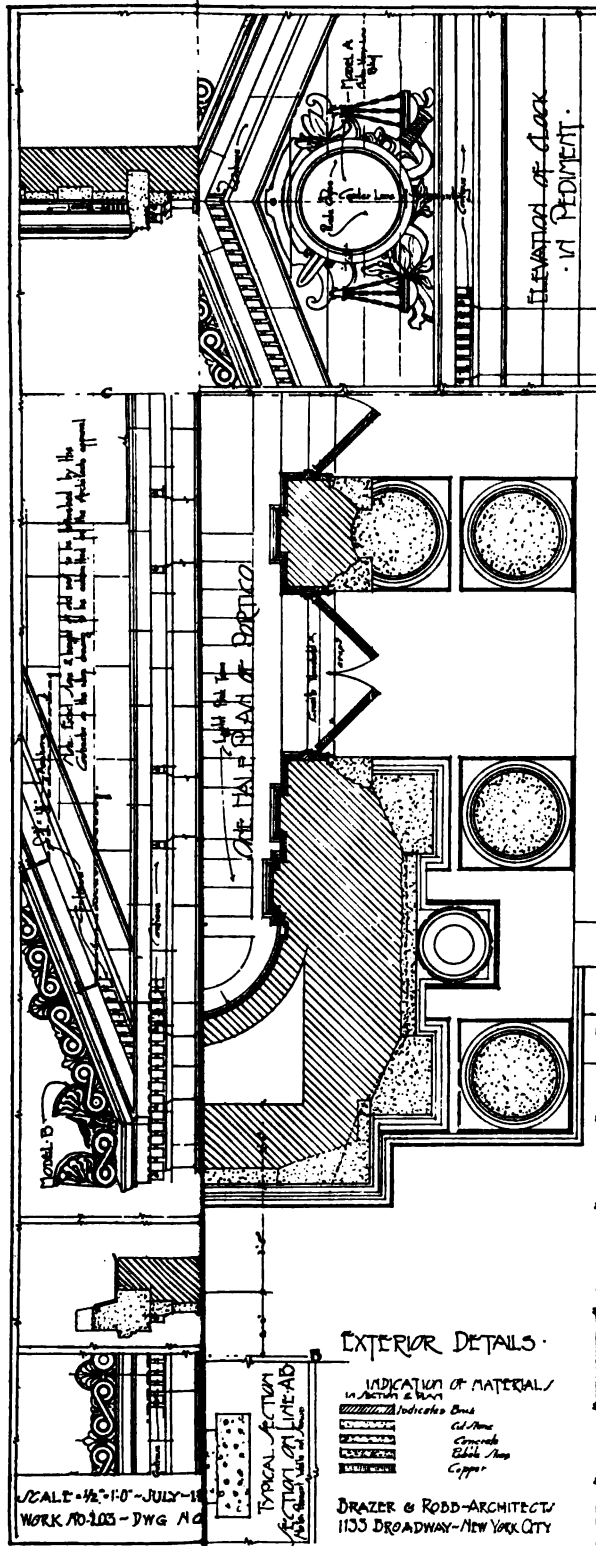
Cutler Mail Chute.

Evan's "Crescent" Expansion Bolts.

Otis Elevators.

Newman Grille Watchclock System.





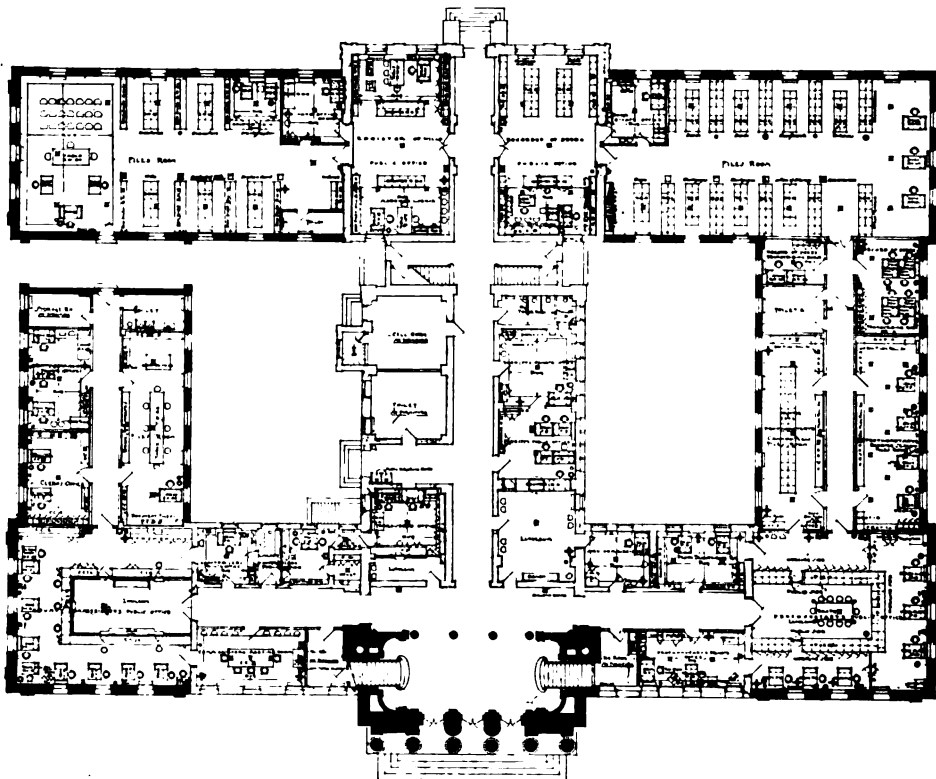
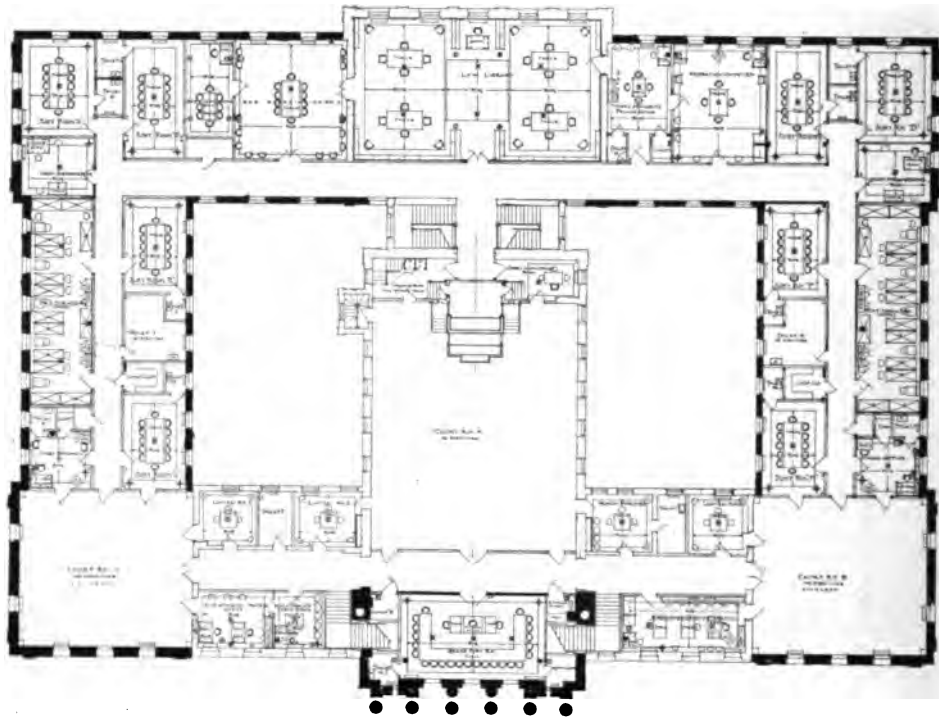


THE OLD COURT HOUSE BEFORE ALTERATION.



THE CENTRAL FACADE OF THE RECONSTRUCTED BUILDING,
DELAWARE COUNTY COURT HOUSE, MEDIA, PA.

Brazer & Robb, Architects.



PLANS OF THE FIRST AND SECOND STORIES. OLD PORTIONS SHOWN IN OUTLINE.
DELAWARE COUNTY COURT HOUSE, MEDIA, PA.

Brazer & Robb, Architects.



A PORTION OF THE FACADE AND THE VESTIBULE,
DELAWARE COUNTY COURT HOUSE, MEDIA, PA.

Brazer & Robb, Architects.



THE LAW LIBRARY AND COMMISSIONER'S PUBLIC OFFICE,
DELAWARE COUNTY COURT HOUSE, MEDIA, PA.
Evan's "Crescent" Expansion Bolts. Brazer & Robb, Architects.



TWO COURT ROOMS. DELAWARE COUNTY COURT HOUSE, MEDIA, PA.
Venetian Blinds: The J. G. Wilson Corporation. Brazier & Robb, Architects.

RESTAURANT LIGHTING

By F. LAURENT GODINEZ

Architects are frequently called upon by clients to designate suitable lighting equipment for interiors which are to be used as restaurants. Inevitably, there arises the problem of selecting one of the two mediums of lighting expression—visibility or invisibility of source. It is a matter of some difficulty to design a lighting fixture of any sort, simple enough to conform with the simplicity of a perfectly plain interior—lacking in decorative or architectural expression. For such interiors, where ceilings are fairly light in color, the best mode of lighting is to use as few

above. If the base-board outlets are lacking, there is nothing left for the tenant to do but install some sort of a ceiling fixture, and it is difficult to obtain a commercial fixture which is not too predominant for a perfectly plain interior. The point at issue is the architect's responsibility, as regards the efficiency of his structure in adaptability to tenants' requirements. There are conditions, quite different from the perfectly simple interior, where fixtures are likewise incongruous. The first illustration shows a grille room with decided character, lighted entirely without



lamps as possible concealed within reflectors which are placed on the side wall, in boxes painted or tinted to match the wall; where ceilings are unusually high, larger lamps in larger reflectors, with less frequent spacing can be used, giving the same result. Such treatments apply to very ordinary conditions. For example an interior, on the ground floor or basement of a building is to be remodeled and used as a restaurant. If the architect has provided sufficient base-board outlets there is nothing to prevent the tenant from carrying out such an effective plan as outlined

the use of ceiling outlets. Individual lamps and reflectors are placed within the cove, so that the ceiling is evenly illuminated. It has been stated that an effect of even ceiling illumination cannot be obtained from cove lighting where individual lamps and reflectors are employed, but as a matter of fact single units give a better effect and with less cost of installation and maintenance than continuous trough reflectors. Unquestionably the interior illustrated would be marred by ceiling fixtures of any sort. It is one of those rare instances when indirect lighting



is perfectly appropriate and at its best. The camera reveals the fact that the intensity of light is sufficient, but it is questionable whether the effect would not be better with the addition of individual table lamps, and a lower intensity of general illumination, such as the next picture, which is also an example of indirect lighting, but from ceiling fixtures supplemented by table lamps. In this case a small lamp within the fixture serves to illuminate the glass panels, and convey the impression of a luminous light source which to many is more agreeable than a dark opaque bowl, suspended below a brightly illuminated

expanse of ceiling. It is to be noted that there is no suggestion of monotony, owing to the wide spacing of units permitted by the ceiling height. There is sufficient light and an unusual distinctive effect. This interior could be just as attractively illuminated by the semi-indirect method, but it would be necessary to modify the design of the fixture considerably, allowing a greater luminous area for the transmitted light, which would necessitate a cutting down of the metal portion of the fixture, and the striking of a new balance in the ratio of glass and metal. The third illustration represents a restaurant of the



same grade as the others illuminated by direct lighting, in a decidedly unusual and effective way. In justice to the lighting it must be said that the camera in this instance exaggerates the glare, but the silhouette effect obtained by placing metal designs in relief before the side wall lights is novel and effective. The ceiling fixture treatment is also very unusual, a bark in full sail being incorporated as a part of the fixture design. The only defect in this fixture being the row of bare lamps placed between the two pendant lanterns. Had these lanterns been a trifle larger, the opal glass forming their panels would have permitted the use of larger lamps, thereby obviating the necessity for the crude exposure of bare bulbs, and incidentally the glare. Lighting of this sort deserves the highest praise because of the effort made

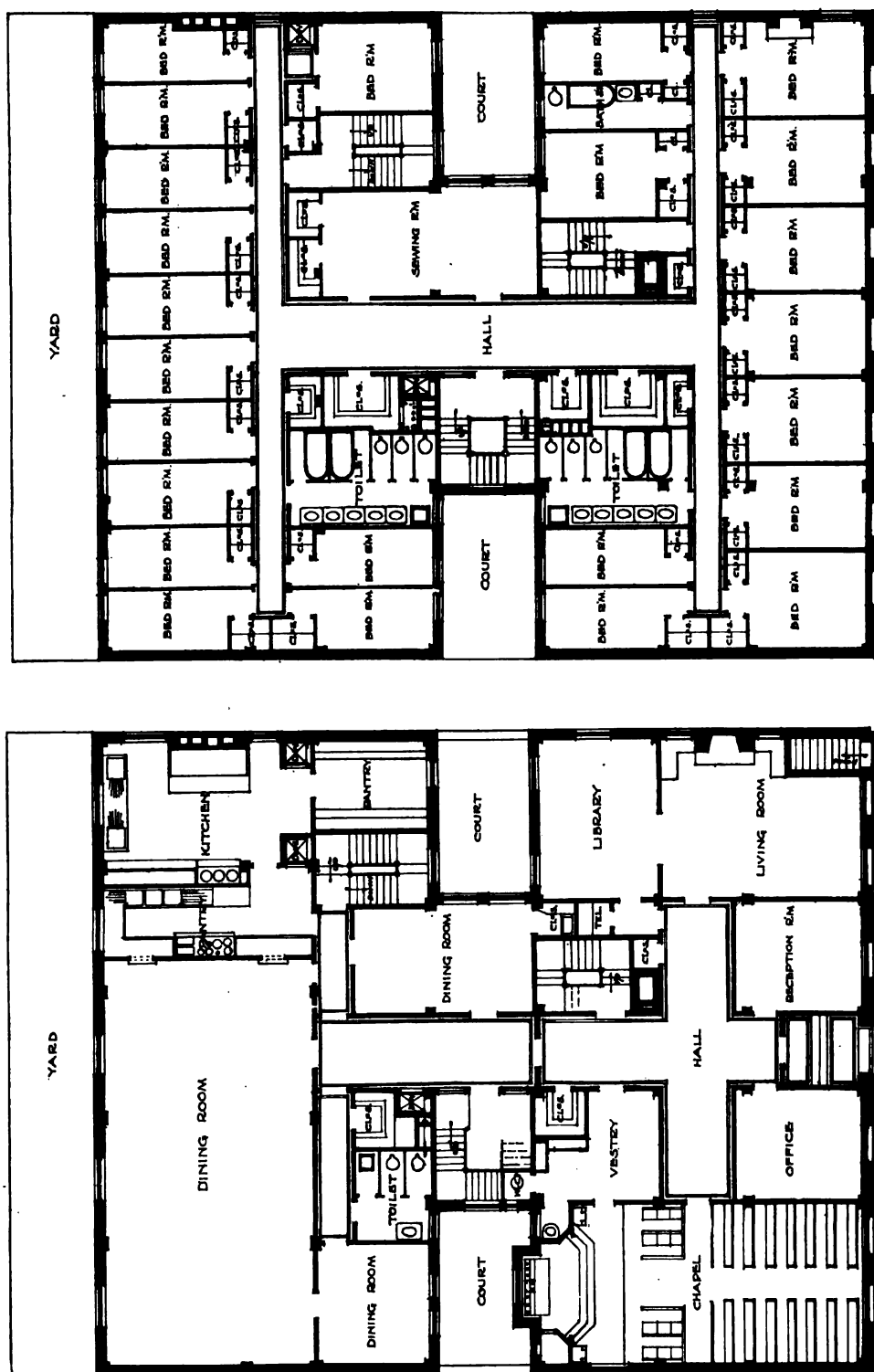
to depart from the conventional, and create an original, distinctive ensemble. In reality this interior appears as brightly illuminated as the others, which is not brought out by the photograph. The last illustration is an object lesson in lighting fixture harmony with architectural environment. The globe on the right marked "B" was installed for reasons unknown. It is a cheap, commonplace shade of the most obnoxious design possible. The globe "A" is what should have been used to harmonize with the fixture and the environment in general. Now, there is one man who can stop such offensive practices, and that is the architect, but he can't do it by leaving the installation of lighting equipment to those who will install whatever they can "sell" to ignorant purchasers.





PUBLIC LIBRARY AT HARRISBURG, PA.

E. S. Child, Architect.



PLANS OF THE DEVINCLARE RESIDENCE FOR SELF-SUPPORTING WOMEN, 415 WEST 120TH STREET, NEW YORK, N. Y.
Lawlor & Haase, Architects.



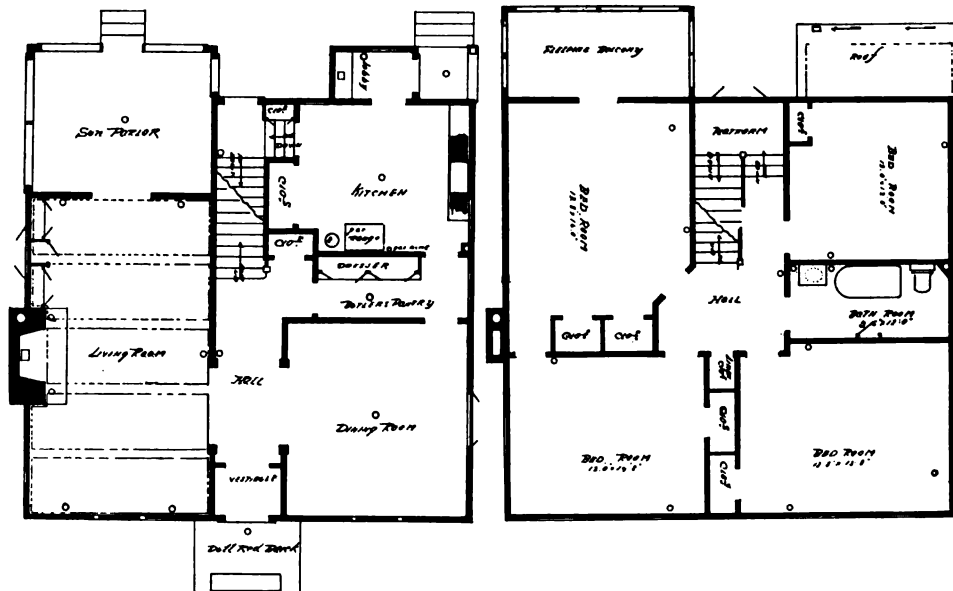
DEVINCLARE RESIDENCE, NEW YORK.

Lawlor & Haase, Architects.

This building is the gift of Mrs. Susan Devin to the authorities of the Roman Catholic Church and is managed under the direction of the Regina Angelorum of the Sisters of Mercy. Its purpose is to provide a home for self-supporting women and a room and board may be obtained for prices ranging from \$3.00 to \$5.00 a week. The project is not a charity, but is intended to be self-supporting without profit.

The building is five stories in height, with basement, roof-garden and sun parlor. It occupies a plot 75x90 feet. Harvard brick and buff Indiana limestone were the materials employed in the construction and the building is fireproof throughout. In the basement is the heating and service plant, laundry, service

dining-room, kitchen and trunk and coal storage space. The first story has an entrance lobby and reception room, a large living-hall, the main dining-room, with serving-room and kitchen. A small chapel, having a seating capacity of 75 is also on this floor. The second, third and fourth stories are the same. They contain private bed-rooms arranged for the accommodation of one or two guests, with baths and toilet rooms and a sewing-room on each floor. The fifth floor has a large dormitory to be used by transient guests when the rooms are all occupied and where the prices for accommodations are considerably lower. There is also upon this floor a large assembly room where social gatherings and dances may be held.



HOUSE OF R. N. THATCHER, MONTCLAIR, N. J.
Electrical Contractors: Jas. F. Hughes & Co. Christopher Myers, Architect.



INTERIORS. HOUSE OF MR. R. N. THATCHER.

Christopher Myers, Architect.

A WELL PLANNED HOUSE

The house designed by Christopher Meyers for Mr. R. N. Thatcher, at Montclair, N. J., is built upon a fifty-foot lot. The over-all dimensions of the house are 34 feet frontage with 36 feet depth. While the house would undoubtedly appear to better advantage on a larger site as most houses do, the design is such as to reap the maximum advantage from its 50-foot frontage.

The house is of frame construction, sided with 24-inch shingles, laid 12 inches to the weather, with a shingled roof and shutters painted green in contrast to the white paint of the walls and trim. The floors of the first and second stories are of oak and the trim of the woodwork of the first story is red oak finished with silver gray acid stain. The finish of the second story is Vitralite with mahogany doors provided with glass knobs. The third story and kitchen are finished in North Carolina pine.

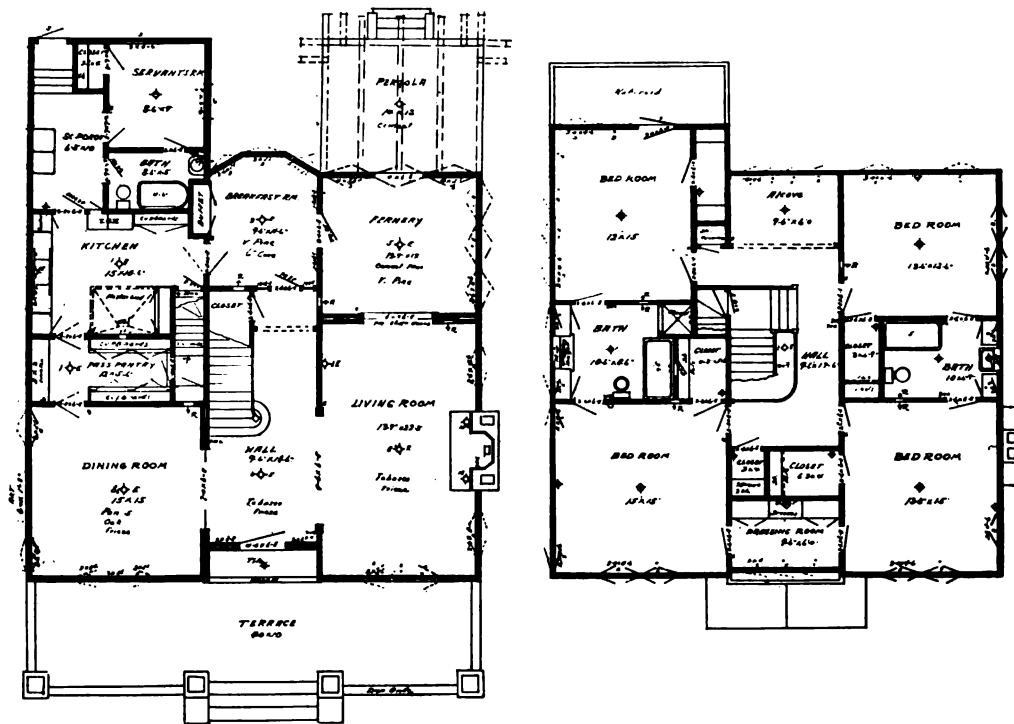
A study of the first floor plan shows a

hallway which though but five feet wide appears spacious because of the wide entrances into the living room and dining room. One stairway serves the house, but the approach from the kitchen is screened so that the need of a back stairway is not so important. The butler's pantry serves as an approach to the kitchen as well as a serving room for the dining room. The sun parlor can be used as a breakfast room, if so desired by serving direct from the kitchen through a serving window in the back hall.

Upon the second floor, there are four large bed rooms and one bath. The plan though, could be easily altered so that a second bath room could be installed between two of the other bed rooms and yet leave ample closet space. The sleeping porch is above the sun parlor and within the lines of the eaves of the house.

The planning of the house as a whole is very well condensed and the space is all advantageously utilized.





STUCCO RESIDENCE AT LOS ANGELES, CAL.

Frank M. Tyler, Architect.



ST. CLOUD.



A STUCCO HOUSE; FOREST HILL, NEWARK, N. J.

October, 1915

PERMIT NO. 106
JAN 1 1915
LIBRARY

ARCHITECTURE AND BUILDING

His Brother's Keeper
By Theodore Starrett

A Bank Office Buildings

A Department Store

A Concrete Building

School Room Lighting
By F. Laurent Godinez

Detail Plate on a Country House
and
Other House Designs

Published by
The William T. Comstock Company
New York
20 c. a copy \$2.00 a year.



The Skyline tells the story

Wherever you go, look at the skyline, and you'll find most ventilators are of this particular shape and construction because most architects and builders know the superior advantages of

"GLOBE" VENTILATORS

They are found on every possible kind of building where correct principles of ventilation and the highest standard of efficiency are required.

Look for them
YOU cannot mistake the shape

GLOBE VENTILATOR CO
TROY, N.Y.



A $\frac{3}{4}$ " inside facing of Impervite mortar will waterproof any leaky cellar or pit. Satisfaction guaranteed or money refunded.

SPECIFY IMPERVITE

It is the only Asphaltic Emulsion Waterproofing Compound. Practically all others contain Calcium-Stearate or other soap.

Impervite is Guaranteed Twice as Efficient

See page 45 of Sweet's 1915 Catalog, or send postal for free "Book 91" containing valuable hints.



"F-S" Products Are Impregnable In the War of Sales Competition

When you specify "Ef-Es-Co" you protect your reputation with a defense that won't fail you. It gives metal or wood a dead-flat white finish that is smooth, washable and durable. It works like paint—looks like enamel. Besides pure white, it comes in various tints.

FELTON, SIBLEY & CO., Inc.

Manufacturers of Colors, Paints and Varnishes since 1863

136-140 North Fourth Street,

Philadelphia

(118)

ARCHITECTURE AND BUILDING

A Magazine Devoted to Contemporary Architectural Construction

WILLIAM P. COMSTOCK
Managing Editor

THEODORE STARRETT
Contributing Editor

Volume XLVII

OCTOBER, 1915

Number 10

There really is method in all this madness—although that's possibly a dangerous simile to try on builders. (Perhaps it's wrong to use the word simile in a sermon to builders, but we must use some words of more than one syllable.) Polonius said, "Methinks there's method in his madness," and that's where I got the idea.

There really is method in all these preachments and that method is summed up in other words by saying that the object of all this effort is to improve the condition of builders. Call them contractors and builders, which means one thing; or contractors, which may mean and generally does mean something else; or just plain builders which covers the whole field, their condition needs improving and these frantic appeals to their reason have that one and only excuse and object.

The architects whom I know and have shown to be tangled inextricably with the builders—well, they can shift for themselves as far as I am concerned or they can read and profit too.

Every builder and every contractor in the United States ought to read these essays—or attempts at explaining things—read them and profit by them, for as sure as there's a sun in the heavens if they once *got the idea* they would quit taking work at a loss or taking contracts so low that they would have to get a big bill of extras through to make themselves whole.

They would quit lots of things that they do now, although of course not one of the whole fraternity but is ready to take his oath that he is the shrewdest little wizard that ever started out to do his fellow men if they would only play fair and let him do them.

Architects are interested in the matter, as I have so often said, but they are not yet their brothers' keepers and the builders must dree their own wierd, as the Scotch say, which is only another word for work out their own salvation.

Architects, by the way, will probably be about the last people on earth to be their brothers' keepers in the sense of keeping build-

ers from making mistakes in estimating or executing their work. How can they be? How dare they be?

I am firmly of the belief that there is being enwrought into the interpretation of the law an idea that more and more men are to be protected from themselves. Employees' liability laws are an example. What builder is there that does not know how the workman nowadays is protected from himself in the State of New York, for instance?

How much does the employer have to pay nowadays for a man injured while working for him and is there any way that he can escape? Dare he make a contract with the workman that if the man is hurt there shall be any compounding of damages? If he does he subjects himself to a greater penalty than the price of the statutory damages.

This looks like interference with the right of contract which the working man, like all free men, finds guaranteed by the constitution. It is interference with that right—to the detriment of no one except the unhappy boss who may have no one to fall back upon in turn—and would have no one to fall back upon unless he has estimated on the cost of liability insurance and has enough coming in to pay this and all the other items that make up cost.

Whenever a competitive contract is let the low bids come from people who either forget or overlook the full responsibilities of the undertaking, or who recklessly take a chance on avoiding what may amount to enormous expenses in connection with their undertaking.

The workman has found the way to the enforcement of the theory that a man must be his brother's keeper.

Will the builder ever find such a haven? Echo answers. But if he ever does, if there should ever come a time when the unhappy fellow should find a law compelling the one who employs *him* to protect him, the builder, from the effects of *his* folly—well, it would not be the architect, of course, much though he may sympathize with or even suffer from the builder's loss.

Competition is an awful thing sometimes. It gets men in the position of the frog in the spring. The frog had gone down to the water's edge to quench his thirst when he fell in. He swam around in the cool water enjoying himself for the while. Getting tired of swimming he thought to move on when he discovered that the banks were too steep for him to climb out; he must jump, and he jumped, and he jumped. The sides were a little too high for him, and he rested and then he jumped some more, but he couldn't fetch it. He was beginning to be exhausted. His jumps were feebler and feebler. It looked as though he must drown.

Just then a snake poked his head over the side of the spring. The fright and the danger gave new life and power to our hero. In the awful agony of fear at the sight of his mortal enemy he gave forth one last desperate effort and landed safe on the bank. His life was saved.

Competition in the building business gets a contractor in the same fix as that frog.

Theodore Starrett.

WIDENER BUILDING, PHILADELPHIA, PA.

HORACE TRUMBAUER, Architect

The site of the old Philadelphia Mint, Chestnut and Juniper Streets and South Penn Square, has been finally utilized for a modern office building. Following the removal of the mint to its quarters on Spring Garden Street, the Mint Arcade, a temporary structure occupied the site for a number of years. In a way the arcade with its shops is repeated in the Widener Building where a central corridor, an arcade in effect, extends from Chestnut Street to South Penn Square.

The building with its frontage on three streets and the central light court from the second story up, the dimensions of which are 30x100 feet, gives excellently lighted offices. The dimensions of the plot are approximately 150x200, and there are eighteen stories.

The exterior is of Indiana limestone and all the metal work is of bronze. There is a three-story base consisting of Corinthian pilasters with the intervening window panels framed in bronze. Above the walls are plain to the 13th story, above which there is a treatment of the walls and window bays similar to the base carried out in a more slender design. The power plant of the building is located in the sub-basement. The basement is occupied by the Arcadia restaurant, its dining-rooms and kitchen, while the first and second stories are divided into shops. The Arcade, of two stories height, is about 20 feet in width and show windows in the shops open upon it. On the second story, a surrounding corridor opens upon the well of the arcade and upon this the show windows of other shops open. The elevators are placed at the center on the side of the building which adjoins the next property. The elevator lobby opens from the arcade and there are seven elevators upon either side of it which serve all floors of the building, including the basement. There are two stairways leading from the arcade to the restaurant and an additional entrance on Chestnut Street to the restaurant. The service hall with freight lift and service elevator opens upon South Penn Square. Twelve of the main eleva-

tors and the freight lift serve all floors. Two of the main elevators extend from the basement to the second floor and one service elevator stops at this story also. In the third story, the arrangement is similar to the typical plan of the upper stories, however, there are additional toilet rooms and rest room and toilet room for women, and a large barber shop containing nine chairs, manicure room and other appurtenances. In the typical plan the offices which face the street sides are provided with individual lobbies which separate them from the corridor.

The construction is of the usual steel frame with concrete floor system and fire-proofing. The flooring and wainscoting in the corridors is of marble throughout and all doors, window frames and trim are of hollow steel.

The restaurant which occupies the basement has a dining-room with a seating capacity of 500 and a grill room with seats for 400 more. In addition, there are eight private dining-rooms for small gatherings. About 20,000 square feet of floor space is occupied by this restaurant and its service space. The main dining-room is on the Chestnut Street side and is thus as readily accessible from the Chestnut Street entrance as it is from the stairway leading from the arcade above. A handsomely decorated entrance lobby is provided at the elevator approach. To the South Penn Square side, is the grill and the "lounge" or bar. The eight private dining-rooms are located on the Juniper Street side.

The mechanical plant consists of four boilers of 375 h. p. each. These boilers are hand fired and operate on natural draft provided by the large main stack, 8 feet in diameter which extends from the sub-basement to the roof. Steam is generated at 150 pounds pressure and is carried through a 12-inch steam loop to the main engines. There are three cross compound Corliss engines, 19x30x36 direct connected to 400 kilowatt, three-wire type D. C. generators and one cross compound Corliss engine 15x24x36 direct connected to



WIDENER BUILDING, SOUTH PENN SQUARE FRONT.

Builders: George A. Fuller Co.
American Enameled Brick used.



ARCADE ENTRANCE, WIDENER BUILDING.

Ornamental Iron and Bronze: Richey, Browne & Donald, Inc.
 Metal Doors and Trim: The Empire Art Metal Co., Inc.
 Bommer Spring Hinges.
 Evan's "Crescent" Expansion Bolts.
 Grant Overhead Pulleys.

a 250 kilowatt, three-wire D. C. generator. This is the main power plant. In addition are the house pumps, fire pump, feed water pumps, vacuum cleaning, refrigerating apparatus and other mechanical equipment, which are fed from a 10-inch auxiliary steam main.

Mechanical ventilation is provided for all rooms below the street level and for the toilet rooms throughout the building and the barber shop. There is supply and exhaust ventilation for the boiler and pump rooms in the cellar, 46 feet below the street level; supply and exhaust ven-



THE ARCADE. WIDENER BUILDING.

Builders: George A. Fuller Co.
Cutler Mailing System.
Marble Work: Batterson & Eisele.

tilation for the engine room and refrigerating plant in the sub-basement; supply and exhaust ventilation for the restaurant and grill room in the basement with which is combined supply and exhaust ventilation for the service and storage rooms in the sub-basement. There are two propeller fans which supply washed and cooled air to the kitchen and the grill, and there is special exhaust ventilation from the kitchen range hoods. A separate exhaust system is provided for the barber shop and toilets.

The elevator equipment consists of two banks of six machines each which travel from the basement floor to the 18th story, a distance of 261 feet, 3 inches. The maximum car speed is 600 feet per minute with a maximum load of 2,500 pounds. The elevators are the Otis gearless traction type. At the centre of each of these banks of elevators, there is an additional elevator, which two are hydraulic plunger passenger lifts traveling from the basement to the second floor, a distance of 41 feet.

This type of machine has been installed because of the lack of space for the machinery of other types, either overhead or in the basement. In addition, there is a freight lift of the gearless traction type, three hydraulic freight elevators of the plunger type and one hydraulic dumbwaiter of the plunger type. The entire equipment is installed by the Otis Elevator Company.

Horace Trumbauer was the architect of the Widener Building and the builders were the Geo. A. Fuller Company. The bronze work of the building was done by Richey, Browne & Donald, Inc., and the metal doors and trim by the Empire Art Metal Company, Inc. American Enameled brick was used. The marble work of the arcade and the interior was done by Batterson & Eisele.



THE ELEVATOR CORRIDOR. WIDENER BUILDING.

Marble Work: Batterson & Eisele.
Otis Elevators.



THE BROOKLYN TRUST COMPANY, BOROUGH OF BROOKLYN, NEW YORK.

Metal Windows: Wm. H. Jackson Co.
A. B. See Electric Elevators.
Grant Overhead Pulleys.

York & Sawyer, Architects.



INTERIOR OF THE BROOKLYN TRUST COMPANY.

Bronze Counter Screen: Wm. H. Jackson Co.
Chairs: Marble and Shattuck Chair Co.
Interior Marble: Batterson & Eisele.
Painting and Decorating: Charles Grimmer & Son.



ENTRANCE TO THE BROOKLYN TRUST CO.
Hand Wrought Doors: Wm. H. Jackson Co. York & Sawyer, Architects.



York & Sawyer, Architects.



LOBBY AND INTERIOR OF BROOKLYN TRUST CO.

Bulletin Board: U. S. Changeable Sign Co.
Marble: Patterson & Eisele.
Bronze Work: Wm. H. Jackson Co.

AMES STORE, CLEVELAND, OHIO

STARRETT & VAN VLECK, Architect

In designing a department store it is requisite to construct a building which will have as low an insurance rate as possible and which will comply with the local building laws wherever it is erected. Thus far the department store differs little from any other business structure and is a straightforward proposition requiring no more than the average skill in designing. Occasionally, however, problems are presented because of irregularly shaped sites and unusual departmental requirements. In the case of the Ames Store in Cleveland, the lot is cut off at an irregular angle which made necessary careful planning so as to utilize to the best advantage, the floor area. The plan is developed as it might be if the building was upon a rectangular site and the columns run parallel to the street side through the building in two rows making the structure three bays wide at the front. The elevators and one stairway are placed near the middle of the inclined side, so that they open centrally into every story, thus an irregularity of plan is turned into an advantage as it locates the elevators reasonably near the main entrance and at the end of the main corridor of the first story.

Cleveland Building Law requirements demand that there shall be two outside fire tower staircases in such a building. Making a virtue out of necessity, one of these stair towers has an entrance from the side street immediately behind

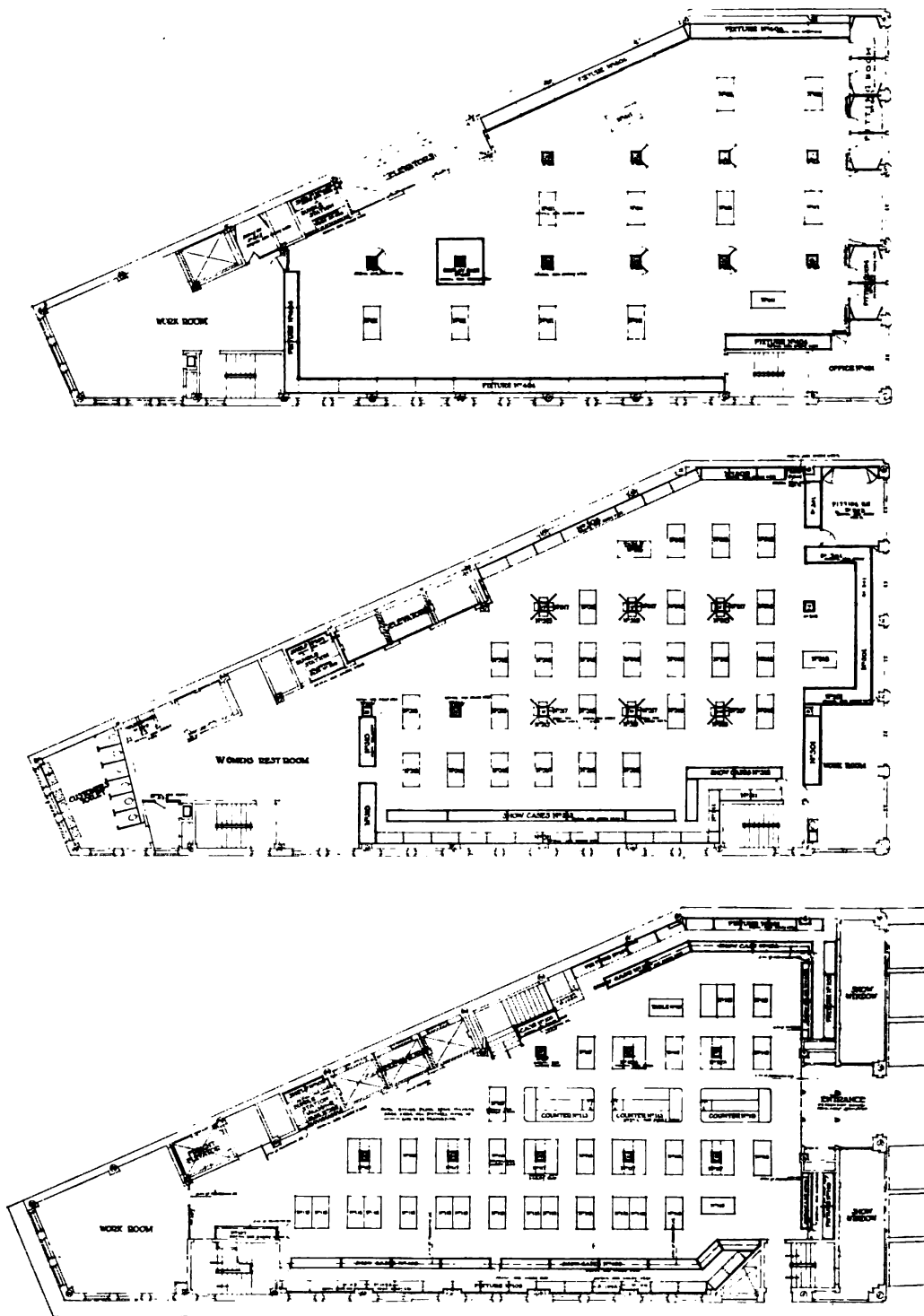
the show window at the front part of the building. This serves as an auxiliary entrance to the front or "Main Sales" entrance. The other fire tower entrance is used as an entrance to the store, and also an employee entrance.

The store is a specialty store devoted to women's apparel, garments and millinery. The wide center aisle can be equipped with tables during bargain sales, so that there is ample accommodation for the patrons of the store about the displays. The aisle along the street side then affords a passageway to the passenger elevators for the patrons who



wish to reach the upper stories.

The arrangement of the departments on the first floor consists of white goods to the right of the entrance and hat shapes and hat trimmings to the left. At the rear is a trimming department where a purchaser may take the various material for trimming a hat and have a hat trimmed to suit. The second story is devoted to expensive imported hats,



EQUIPMENT PLANS OF THE FIRST, THIRD AND FOURTH STORIES OF THE AMES STORE.

Starrett & Van Vleck, Architects.



THE AMES STORE, EUCLID AVENUE AND EAST 3RD STREET, CLEVELAND, OHIO.

Builder: Roy Black.
Terra Cotta: Federal Terra Cotta Co.
Barrett Specification Materials Used.
Evan's "Crescent" Expansion Bolts.

Starrett & Van Vleck, Architects.



MAIN CORRIDOR, FIRST STORY AND PARIS HAT DEPARTMENT, THIRD STORY. AMES STORE.
Store Fixtures: Atlantic Fixture Co.
Stanley Half Surface Butts.



FOURTH STORY, LADIES' SUITS AND DRESSES, AND FIFTH STORY, \$5 HATS EXCLUSIVELY.
AMES STORE.

Store Fixtures: Atlantic Fixture Co.

Starrett & Van Vleck, Architects.

together with a mourning section. The fourth story is occupied by a garment department with fitting rooms, and the fifth story is given over exclusively to the display of \$50.00 hats, with display cases and tables. The general scheme of the store is alternation of departments from story to story. The cases, tables and counters throughout are specially designed adaptations of unit equipment and the wall cases are equipped with special fixtures for the storage and display of the various articles shown in the different departments. The Atlantic Fixture Company installed these cases and display appliances. Mirrors are placed about the columns in all the departments, in the hat department short mirrors, with small tables and chairs before them, and in the garment department, full length mirrors. Swinging mirrors are fastened at the corners of each column, so that a triple mirror is provided on each side of the column, an arrangement which is both economical and extremely useful.

Without entering into a general description of the building, points of special interest in its equipment are the special elevator doors which are in two sections swung from either jamb and each section arranged in two leaves so that in opening, the doors swing out and close like a jack knife against the jambs. This door has the advantage of quick operation and provides a full opening the complete width of the car.

The lighting throughout is by means of Mazda lamps of 300 Watt capacity in the first story, and 200 Watt in the upper stories. Albedo daylight color value glass is used in the fixtures in all the hat departments.

The show windows are illuminated by top and bottom lighting for which it is claimed that a better illumination of the goods displayed is produced. The bottom lights are set in trough reflectors below the floor level, close to the front of the window and the overhead lights are set in reflectors behind the top casing. While this system is apt to produce a flat window, it is claimed that it has

great adaptability and that the natural shadows and depth in the window may be secured by a proper adjustment of the lights.

The building is ventilated throughout by exhaust fans on the roof and supply fans in the basement forcing the air through several large ducts to all floors. What a proper ventilating system means to a department store in hot summer weather may be realized from actual tests conducted. In the Lord & Taylor store, New York, where a complete ventilating system is installed, when the outside temperature was 80 degrees, it was possible to maintain the inside temperature throughout the building 4 or 5 degrees lower with a corresponding reduced degree of humidity. Comfort for its patrons is a great asset for a department store.

In connection with the cash system in the store, the National Electrical Credit System designed for the authorization of charge sales is used. In the operation of the system, the inspector or clerk telephones the details of the sale to the credit department. She receives in return the printed authorization of the credit office upon the charge slip. The charge slip does not leave the department where the sale is made. The authorization is printed on it by means of an electrical stamping device, into which the slip is inserted. The printed authorization can in no instance be secured except through the operation of the stamping keys located on the switchboard in the credit office. In the use of the telephone for conveying information from the selling departments to the credit office, and the electrical device for stamping the authorization of the credit office on the charge slips, there are employed the speediest known methods for handling these transactions.

The street elevation of the exterior is ornate but in good taste, making a valuable advertising feature for the store. Green terra cotta with gold treatment is used up to the third story; above the front is of polychrome terra cotta done in three colors. The terra cotta was made by the Federal Terra Cotta Co.

SCHOOL ROOM LIGHTING

By F. LAURENT GODINEZ

School lighting in general has been more neglected than any other branch of applied illumination, due possibly to political influence in the community, and the torpidity of "Board of Education" who cannot agree collectively upon radical changes which might disturb the equilibrium of ultra- (political) conservatism. It is a matter of record that when school buildings are in the making, there is often quite a substantial appropriation laid aside for "lighting fixtures" for which there is no visible **equivalent** other than the usual cheap assortment of brass and glass. The lighting arrangement, which is typical, consists of drop stems of considerable length from which depend globes of ground glass encasing the illuminants. The length of these stems is usually so great that pupils seated at the rear of a class-room are obliged to look past rows of glaring bulbs in order to see the blackboards directly opposite them. Thus, the fundamental principle of good lighting—glare elimination—is grossly violated. Aside from the exposure of the delicate visual organs of the young to illuminants which are unprotected, in most cases the fixtures themselves offer positive obstructions, directly within the visual field. These conditions are not extreme, but quite general throughout this country. Whether the globes on such fixtures are pendant, or upright is immaterial, the effect of glare, obliteration, and ocular discomfort being as great in either case, and while the addition of good diffusing and glare reducing glassware would improve the visual efficiency of such lighting considerably it could not, obviously eliminate the obstruction factor named. As a rule, nothing short of a chaotic political upheaval will

liberate an "appropriation" large enough to introduce thoroughly efficient and safe lighting in the form of an entirely new system, and the crying need for safer illumination in the school must be met by temporary and very inexpensive changes which can be made promiscuously, and charged to some sanctioned "general expense" account. It is therefore impossible to change the location of ceiling outlets, and as a rule it is necessary to utilize some portions of the old lighting equipment.

The eyebrow is nature's means of protecting the sensitive retina from stimuli directionally opposed to usage which has established positive ocular tendencies. For example, the retina is most accustomed to light rays which enter the eye in a horizontal direction, as from windows. One may regard a lighted candle, on a level with the eye, without discomfort, but when the candle is raised a few feet above the head or placed upon the floor, a very uncomfortable ocular sensation is apparent. The same discomfort is noticed when a man changes from a straw hat to the narrow brimmed derby, or again when light is reflected from the snow-covered pavement, up into the eye. In all these instances the light rays enter the eye at **an angle**, and excite sections of the retina unaccustomed by usage to such stimuli. The eyebrow acting as a protection from this source of eye trouble is exactly similar in action to the straw hat brim. If the candle is raised to a higher position above the head to a point where no direct rays enter the eye, the rays being intercepted by the eyebrow, an immediate and grateful sense of relief results, even with the mild and inoffensive candle. Substituting for the candle in the experiment a modern electric illuminant which exceeds its intrinsic brilliancy several thousand times, the feeling of relief is in direct ratio.

The action of redirecting surfaces is important in this relation, for the distribution of light from the illuminant is,

NOTE:—Mr. Godinez has presented papers relating to this subject before the Hudson County Medical Association, the Sanitary Association of New Jersey and the New Jersey Society of Medical Inspection and School Hygiene. In the various discussions following the presentation of these papers the measures advocated by Mr. Godinez were endorsed, and the matter referred to special committees for legislative action.—Editor.

in turn, modified by their redirective action. Figure 1 shows the manner in which the shape of a polished redirecting surface, be it glass, wood, paper, silver, or whatsoever material, changes the distribution of light from an enclosed light source. The law, "The angle of incidence

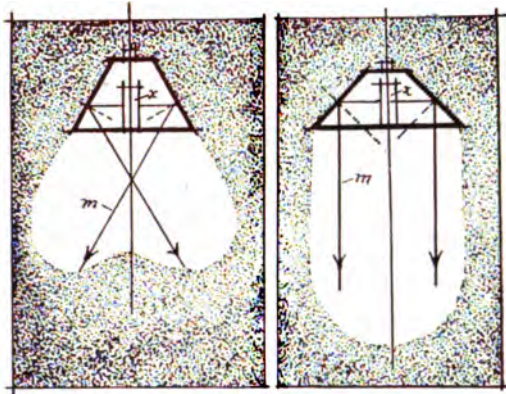


FIGURE 1. POLISHED INNER SURFACES.

equals the angle of reflection," holds. Similarly (Fig. 2) the law applies with equal force to surfaces which are **depolished**, or semi-rough, like blotting paper, or glassware which has been depolished with sand blast, acid-etching, or a combination of both, known to the glass trade as "satin-finish." While a depolished surface gives a better diffusion and breaks

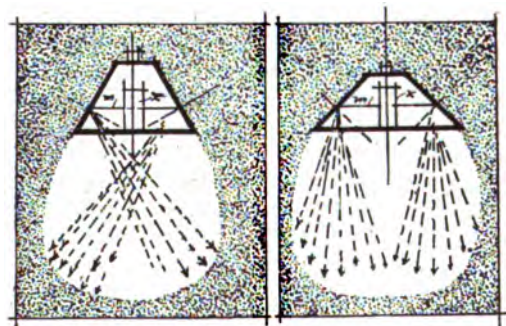


FIGURE 2. DEPOLISHED INNER SURFACES.

up sharp, direct radiation, it is evident that the lamp itself is still visible within depolished reflectors of the forms illustrated, and these forms are typical of the reflectors, or rather shades which are used for school-room lighting (Fig. 3) where individual lamps with glassware are suspended on single pendant stems. From this picture it is apparent that consider-

able eye-disturbance results from the manner in which the light is distributed, as indicated by the continuous black lines with arrow points. The reflector used—one of the commonplace prismatic variety—gives what is known as a wide distribution, and by referring to Fig. 1 it appears that the horizontal rays from the lamp filament **cross** after impinging upon the adjacent reflecting or diffusing (inner) surface of the shade. This "wide" distribution appears appropriate upon superficial consideration, as the only means of giving a uniform illumination on the working surface, but it is obvious that the redirection is at such an angle as to enter the eye without permitting the eyebrow to exercise its protective function. The mistake was made—and it is commonly made in such applications—in not eliminating the fixture stem, and placing the reflectors close to the ceiling and then having them deep enough to conceal the lamp, which would give a concentrated distribution, directing the light straight downward within a circle, the diameter of which would, roughly, be equal to one-half the height of the reflector above the plane illuminated. School rooms have as a rule ceilings of fair height, so that with reflectors of a concentrating type it is possible to obtain an even illumination on the plane below. To illustrate, if these concentrating reflectors were placed on the fixture stems, as indicated (Fig. 3), the resultant illumination would be very uneven, consisting, in fact, of a series of bright spots on the working surface with noticeably darker intermediate spaces. With low ceilings these concentrating reflectors could only be used with more frequent spacing of outlets. Their great advantage consists in shooting the light directly downwards, so no matter where a student may be seated, the eyebrow exercises its protective function, and to as great an advantage as if an eye-shade were worn.

The same logic applies to indirect lighting, and Fig. 4 shows an attempt to reconstruct an old fixture by placing opaque reflectors over the upright sockets. If concentrating reflectors were used there would be a series of noticeably bright spots directly over the reflector (on the ceiling) and the redirection of light would be straight downward as indicated by the broken line, and the eyebrow could



FIGURE 3.

perform its function. With a wide angle reflector the ceiling surface would appear more evenly illuminated, but on the other hand the redirection of light would be at such an angle as to prove annoying to students seated within range.

The extreme aggravation of this condition is exemplified by cove lighting,

where lamps placed within the cove a short distance below the ceiling direct light against the immediate ceiling surface which is redirected into the eyes of the unfortunate occupants of such an interior in a most annoying and painful manner.

(To be continued.)



FIGURE 4.



GROUP OF SIX TWELVE-STORY MANUFACTURING LOFTS TO BE ERECTED BY THE HOBOKEN LAND AND IMPROVEMENT COMPANY ON THE NEW JERSEY SHORE, ADJOINING THE FOURTEENTH STREET HOBOKEN FERRY. TWO STRUCTURES COMPLETED AND A THIRD ONE JUST AUTHORIZED.

CONCRETE MANUFACTURING BUILDINGS IN HOBOKEN, N. J.

CHARLES FALL, Architect

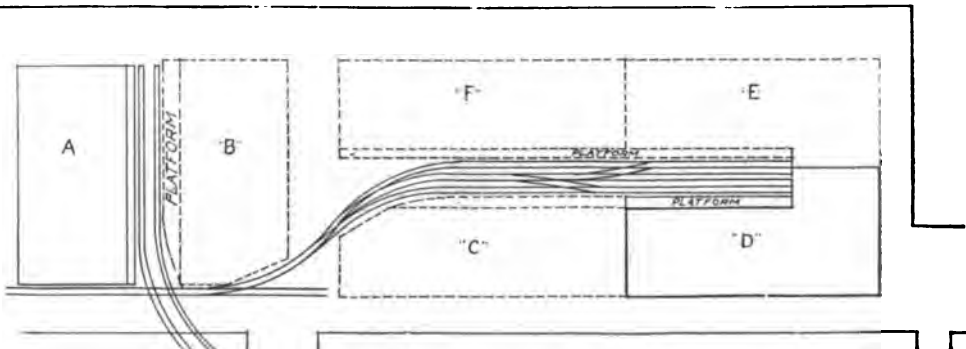
The group of manufacturing loft buildings with their railroad terminal connections which is now being constructed in Hoboken, N. J., will, when completed, consist of six buildings built in three units. These buildings stand on filled in ground on what was formerly a portion of Weehawken Cove. They are located just north of 14th Street and the east side of the site faces on Hudson Street, if extended. The entrance is at the 14th Street Ferry, Hoboken. The cove on the north side of the site furnishes docking facilities for ships of deep draught and on the east side of the site there are facilities for landing cars from floats with a car bridge and freight yards. This operation is being promoted by the Hoboken Land & Improvement Company and will represent when completed an investment of about \$3,000,000. The buildings are of reinforced concrete and at the present time buildings A and D are completed.

The construction of Building D, now just finished, is typical of all the buildings. Spread footings are used bearing upon 32 to 58 piles; a total of about 3,300 piles driven from 30 to 32 feet to hard pan are under this building. The construction is the straight reinforced concrete type of columns with beam and girder support for the floor system. The first floor is flat slab construction. The bays are from

15 to 17 feet wide and from 26 to 27 feet 6 inches in length. The designed live load is 200 pounds to the square foot throughout the twelve stories of the building. As measured from floor to floor, the height of the stories averages 14 feet 6 inches. The wall columns are of the usual exterior type with spandrels and window sash set flush with the inner side of the column.

At the basement level, the typical wall column is 2 feet 9 inches through by 4 feet wide, reinforced with eight $1\frac{1}{8}$ -inch square steel rods with $\frac{1}{4}$ -inch square hoops spaced one foot on centres. The width of the wall columns remains the same for the full height, but the depth diminishes so that at the top story they are 1 foot 2 inches through, reinforced with six $\frac{1}{2}$ -inch square rods. The reinforcement is lap spliced. The interior columns are 3 feet 11 inches square in the basement, reinforced with eight $1\frac{1}{4}$ -inch round rods, four $1\frac{1}{8}$ -inch round rods and hooped with $\frac{3}{8}$ -inch square hoops, 6 inches on centers. These rods are set in cast iron bases and screw couplings are used on all reinforcement up to the ninth story. In the first story these columns are circular, 3 feet 5 inches in diameter and reinforced with eleven $1\frac{1}{4}$ -inch round rods. The circular type of column is used throughout the interior of the

Bulkhead



PLAN OF SITE SHOWING SIX BUILDINGS, RAILROAD FACILITIES AND BULKHEAD.



BUILDING "D" JUNE 24TH, 1915. BUILDING "A" IN BACKGROUND.

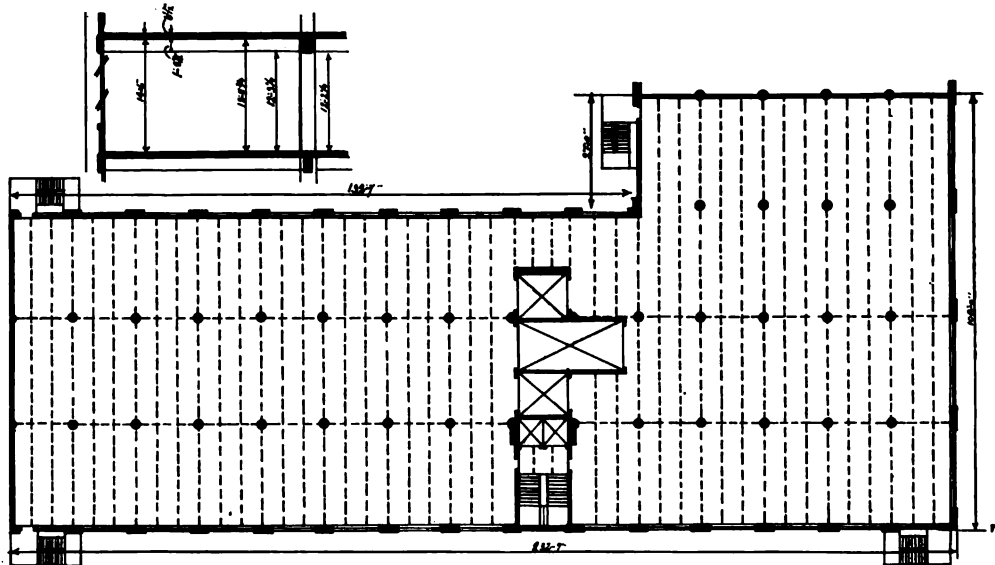
building, gradually reduced in size to 1 foot 2 inches in diameter in the top story. Blaw steel column moulds were used for these columns.

The roof is designed for 60-pound live load, to be used for recreation or business purposes; above the roof slab proper there is a Barrett Specification roof which is topped with a concrete surface 3 inches thick. Throughout the floors are graded to scuppers placed in the walls. There is a 2-inch grade up to all elevator sills and a 2-inch grade down to the stair landings to provide a drain. The inside partitions are of 6-inch terra cotta. The floors are finished with 2 inches of cinder concrete and a $\frac{3}{4}$ -inch top finish of cement, with

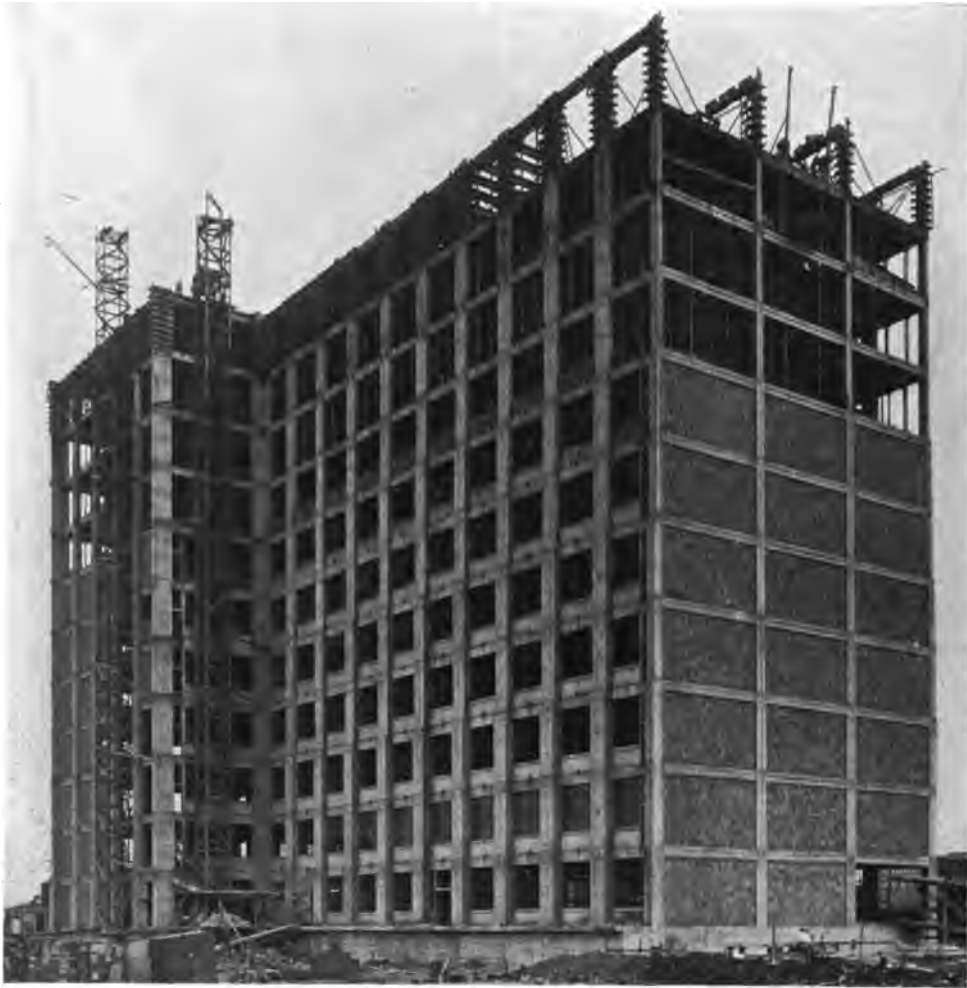
which Arco hardener is mixed to prevent dusting.

The typical girders used in the building are 1 foot thick and 2 feet 1 inch in depth, including the floor slab. They are reinforced with two 1-inch bent bars, two 1-inch straight bars and eighteen $\frac{3}{8}$ -inch square stirrups. The wall girders are 8 inches thick, 2 feet 1 inch deep and reinforced with one 1-inch square bent bar, one $1\frac{1}{8}$ -inch straight bar and eight $\frac{3}{8}$ -inch square stirrups. The beams are 7 inches thick, 2 feet in depth and reinforced with one $1\frac{1}{8}$ -inch bent bar, one $1\frac{1}{8}$ -inch straight bar and ten $\frac{3}{8}$ -inch round stirrups.

The windows are of the rolled steel



PLAN AND STORY SECTION OF BUILDING "D."



BUILDING "D" SEPTEMBER 1ST, 1915.

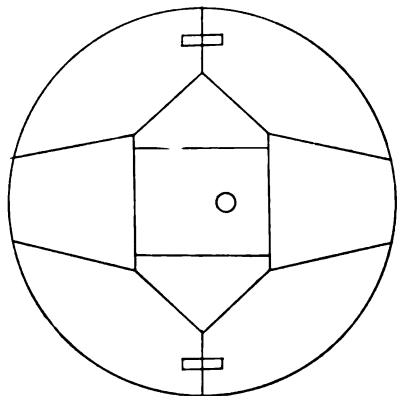
Builders: Turner Construction Company.
Glazing: Schrenk & Co.
Pennsylvania Wire Glass.
Blaw Steel Column Forms.
Heating and Ventilating: W. G. Cornell Co.
Star Expansion Bolts.

Fenestra type, glazed with Pennsylvania rough wire glass which is made by the continuous process. The glazing was done by Schrenk & Co. The building is sprinklered throughout and is provided with an inside fire stairway and four outside fire stairs. There are two passenger elevators and three freight elevators, one of which is an automobile lift of a capacity to bring up a loaded truck to any floor of the building, where it can be unloaded directly in the quarters of an occupant. The floor area of this building is about 21,000 square feet on each floor and the

total floor area of the building is about 273,000 square feet.

A small but interesting point in the construction of these buildings is the provision of flues for the use of such tenants as need vents for small furnaces and other equipment generating waste gases. These flues are grouped about the elevator shafts, and are 8 inches in diameter. A type of collapsible form was provided for building these flues. It consisted of six pieces of wood provided with central spreaders placed at intervals to keep them apart and wired together to set in place

while pouring. After the concrete was set, this form was collapsed by pulling out the central spreaders which were roped



WOOD FLUE FORM.

together off centre and then collapsing the sticks to remove from the work.

At the present time there is a small power plant which supplies current for all lighting and power purposes, in connection with the two present buildings. When the entire group is completed, there will be a larger power plant occupying the cellar and first and second stories of Building F. This power plant will supply current for all purposes throughout the building.

All this work has been constructed from the plans of Mr. Charles Fall, the architect, by the Turner Construction Company, of New York City.

Since the preparation of this article, Section "D" has been entirely rented to one concern for manufacturing purposes and the owners have authorized the contractors to begin the construction of Unit "F," 263 feet, 5 inches by 81 feet, twelve stories and basement in height.

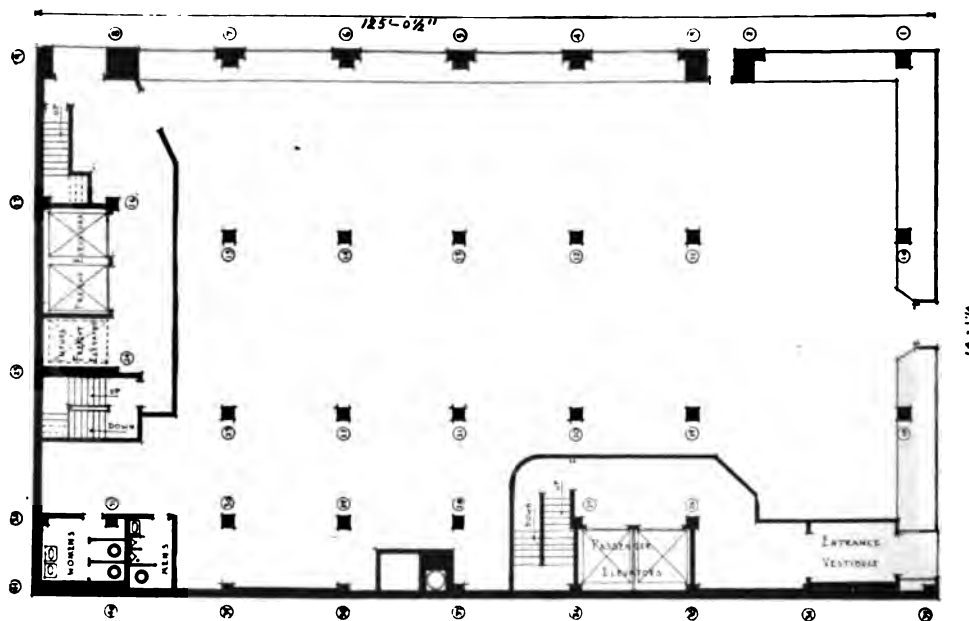


DETAIL. AMES STORE, CLEVELAND, O.



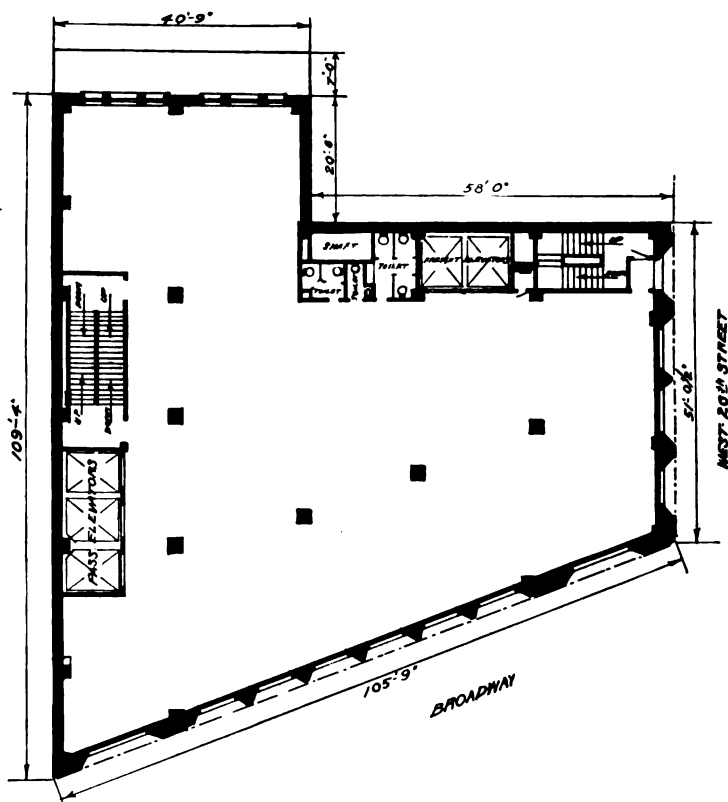
TERRA COTTA AND STUCCO FINISHED BUILDING AT 37TH ST. AND 5TH AVE., NEW YORK.
 Builders: Chas. T. Wills, Inc.
 Cut Stone: George Brown & Co.
 Tile Roofing: Northern Waterproofing Co.
 Star Expansion Bolts.
 Barrett Specification Materials Used.
 Terra Cotta: New York Architectural Terra Cotta Co.
 Electrical Contractors: The Ideal Electric Contracting Co.

Warren & Wetmore, Architects.
 Balcom & Darrow, Structural Engineers.



FIRST STORY PLAN OF BUILDING AT 411-413 5TH AVENUE, NEW YORK.

Warren & Wetmore, Architects.



TYPICAL STORY PLAN OF BUILDING AT 26TH STREET AND BROADWAY, NEW YORK.

Maynicke & Franke, Architects.



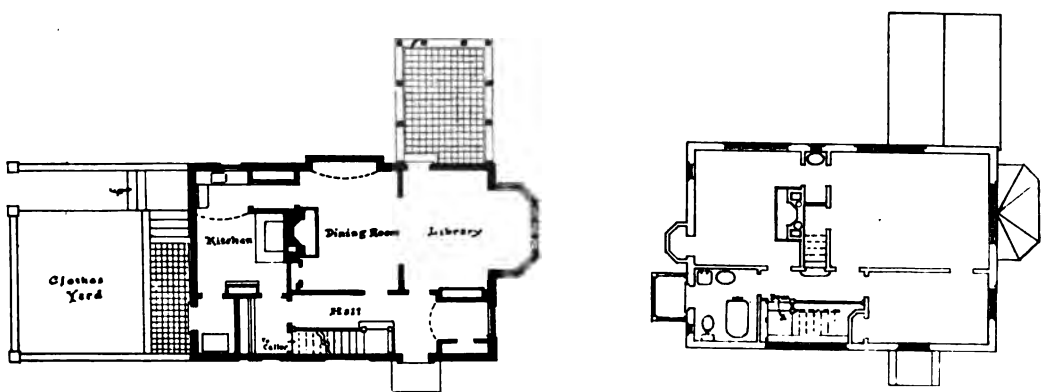
BUILDING AT 26TH STREET AND BROADWAY, NEW YORK.

Builders: Chas. A. Cowen & Co.
Terra Cotta: New York Architectural Terra Cotta Co.
A. B. See Electric Elevators.

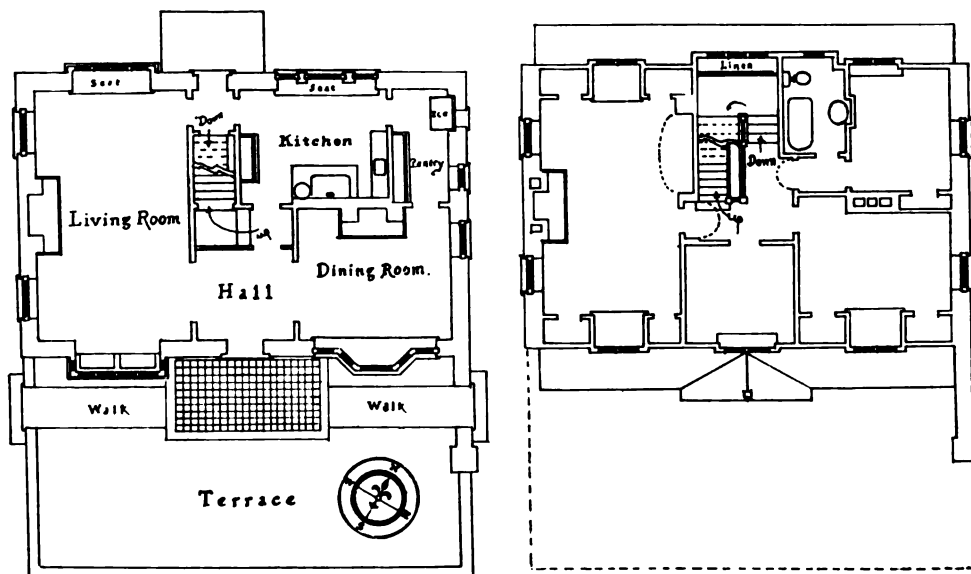
Maynicke & Franke, Architects.



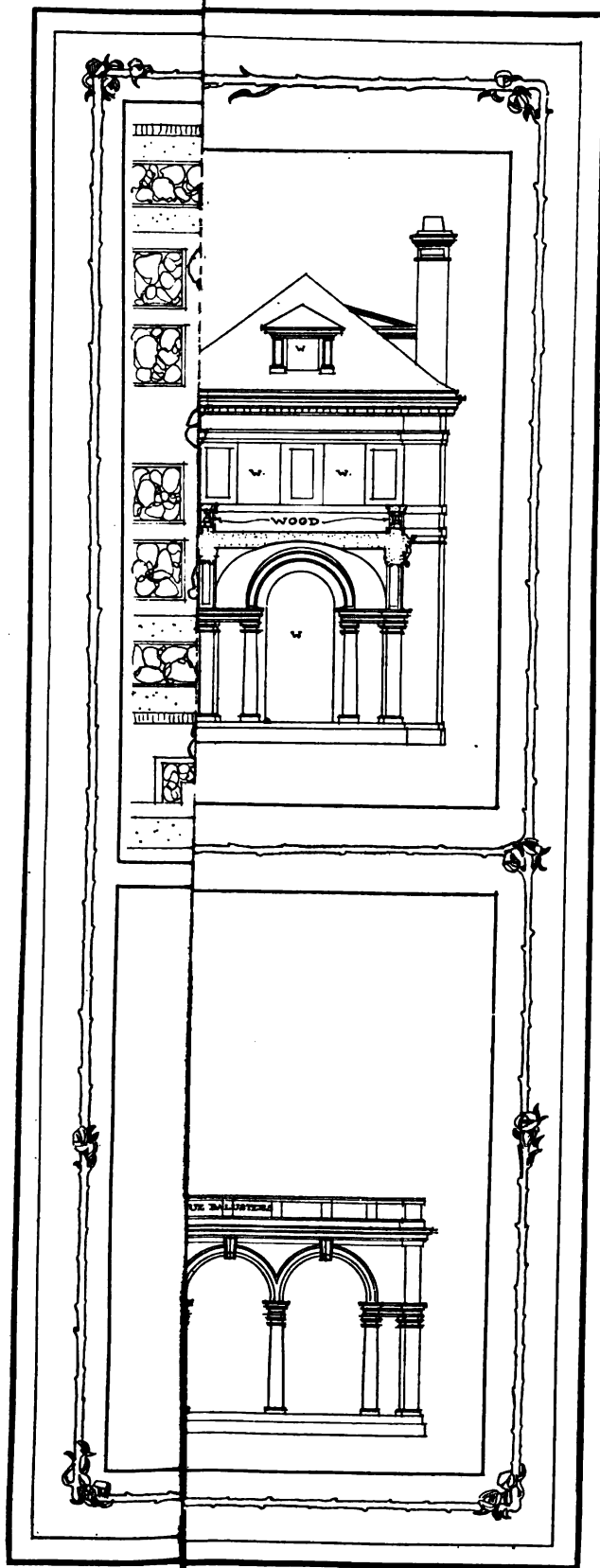
BOW MARCHIONESS, SUMMIT, N. J.



BOW MARCHIONESS, SUMMIT, N. J.



HOUSE AT ELMHURST, ILL.







HIGH SCHOOL OF COMMERCE, SPRINGFIELD, MASS.

Builder: A. E. Stephens Co.
Cement: Knickerbocker Portland Cement Co.
Evan's "Crescent" Expansion Bolts.
Ornamental Plaster and Stucco: F. A. Weake.

Kirkham & Parlett, Architects.



HIGH SCHOOL OF COMMERCE, SPRINGFIELD, MASS.

Builder: A. E. Stephens Co.
Cement: Knickerbocker Portland Cement Co.
Ornamental Plaster and Stucco: F. A. Weake.

Kirkham & Parlett, Architects.



EIGHTH COAST ARTILLERY ARMORY, KINGSBRIDGE ROAD AND JEROME AVENUE, NEW YORK.

Builders and
Mason Contractors } The Connors Bros. Company.
Copper Work and Cornices: Architectural Metal Works.

Pitcher & Tachau, Architects.
Richard D. Kimball Co., Consulting Engineers.



EIGHTH COAST ARTILLERY ARMORY, NEW YORK.

Builders and
Mason Contractors } The Connors Bros. Company.
The Marble Arch Company.

Picher & Tachau, Architects.
Richard D. Kimball Co., Consulting Engineers.

November, 1915

ARCHITECTURE AND BUILDING

The Frog That Had Nervous Prostration
By Theodore Starrett

The Corner Stone
By Tom Thumtack

Two Department Stores

School Room Lighting
By F. Laurent Godinez

A High School

Detail Plate on a Country House
and
Other House Designs

Published by
The William T. Comstock Company
New York

20 c. a copy.

\$2.00 a year.

Engineering
Prostration

PERIODICAL ROOM
RECEIVED

DEC 9 1915

UNIV. OF MICHIGAN
LIBRARY



**You can tell a
"GLOBE"
VENTILATOR
as far as you can see it**

Its substantial, dignified lines are characteristic of the quality of workmanship and material which recommend the "Globe" for use on any class of building where correct principles of ventilation and the highest standard of efficiency are required.

Look for them—you cannot mistake the shape. And you'll find them wherever you go. Catalogue on request.

Address Dep't C.

**GLOBE VENTILATOR CO
TROY, N.Y.**



A ¾" inside facing of Impervite mortar will waterproof any leaky cellar or pit. Satisfaction guaranteed or money refunded.

SPECIFY IMPERVITE

It is the only Asphaltic Emulsion Waterproofing Compound. Practically all others contain Calcium-Stearate or other soap.

Impervite is Guaranteed Twice as Efficient

See page 45 of Sweet's 1915 Catalog, or send postal for free "Book 91" containing valuable hints.



**"F-S"
Products
Satisfy Every
Demand**

When you want an exceptionally good, durable finish to please discriminating people, specify "F-S" Mission Finishes. They are easily applied without danger of lapping or setting while brushing out. They come in a great variety of permanent colors.

FELTON, SIBLEY & CO., Inc.

Manufacturers of Colors, Paints and Varnishes since 1863

136-140 North Fourth Street,

Philadelphia

(119)

ARCHITECTURE AND BUILDING

A Magazine Devoted to Contemporary Architectural Construction

WILLIAM P. COMSTOCK
Managing Editor

THEODORE STARRETT
Contributing Editor

Volume XLVII

NOVEMBER, 1915

Number 11

What a lot of things I have been talking about! Walking delegates, the man that passed the plate, the good medicine-taker, the lawyer who had such mighty influence that every case was supposed to be decided in his favor in advance by simply retaining him. And last month I was telling about the way the law had taken up the case of the working man and made the employer responsible for everything he does—even to making good for all the working man's mistakes, all his sloppy work, all the things he leaves undone or improperly done, as if it weren't enough to have the workman's pay in the envelope every Saturday noon.

And some of the things touched upon were to be continued in our next, and here we go and talk about something else and forget everything that was said last month or the month before or the month before that.

Well, maybe they'll be continued and maybe not. They are the boards and lumber that are being piled up around the site of the house. Later they will be sawed and fitted and nailed in place.

The question is, what shall the builder do to be saved? Somebody is taking care of the workingman. If you don't believe this look up the Employers' Liability law in any progressive State of the Union.

There are two other sets of people that have to do with building, the architects and the owners, and I for one say, let them take care of themselves.

I'm for the jolly builders, the great competitors. I don't believe there's any such word in the dictionary, but you'll know what I mean, those who compete.

Last month I spoke of a certain frog that inadvertently jumped into a spring or well whose sides were so high that it seemed to be impossible for him to jump out. I told of his exhaustion with vain efforts and how a snake peering casually over the edge of the well gave the frog the necessary energy for the seeming impossible leap; and that's why I said "seem."

How many times has a contractor hard pressed for work—for whatever the reason—undertaken contracts at what seemed to be impossible prices?

But, I want to say a few more words about the frog. I said last month that his life was saved. So it was, but he was a changed frog from that day. Nervous prostration is what human doctors call it. Nervous prostration claimed him and he never jumped again the way he had on that famous occasion.

Thenceforth he was a frog with a record; like McGregor. Did you ever hear of McGregor? Well, I can't stop to tell you. It's another story anyhow as Rudyard Kipling used to say so many, many times. The frog that made that awful leap ruined his constitution thereby, and never went near a well again as long as he lived.

There's such a thing as too much of a good thing. That frog got too much, and a lot of builders are getting too much.

The question that comes to the mind of anyone stopping to think about the subject seriously is, why do they do it?

Being human they do do it. They're all like the fellow that said he'd try anything once. But why do they keep on doing it?

Ah, there's the rub!

I wonder if some architect coaxes them. I have known cases of the sort. A noted architect whom I have already taken the preliminary step to immortalize on these pages gained a great reputation as a "contractor-buster" a decade or so ago by calling in ambitious frogs—I mean contractors—and figuring out their estimates with them (and for them) and showing them how this was too high and "you can get that for so much"—hundreds and hundreds of dollars less—resulting in inducing the frog—I mean the contractor—to undertake a seeming snap only to find out that it was the other kind of a thing. I have heard of frogs—I mean builders—induced to take some fearful leaps, but that was in the days when the game was young and there were not so many ambitious builders as there are now.

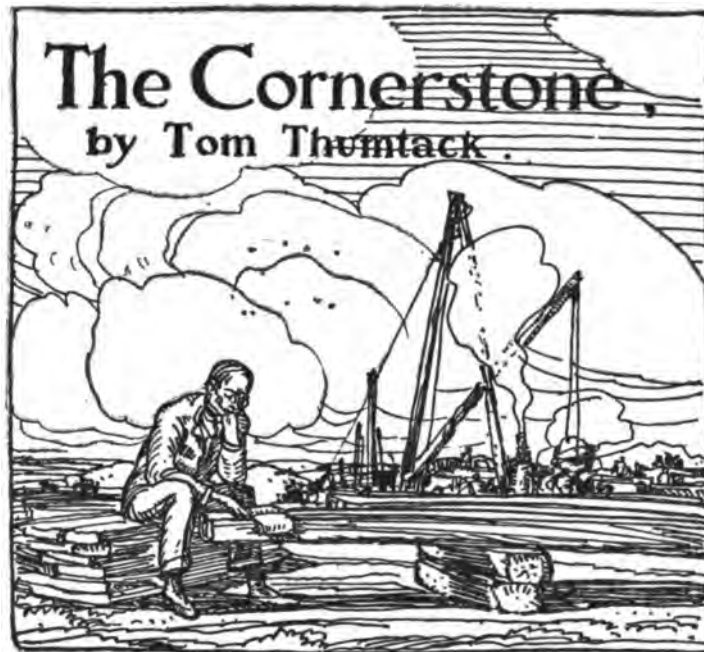
Nowadays, as I said not long ago, all you have to do if you're an architect or an owner or a general contractor of credit is to set the job up where the contractors can see it and they'll dash themselves to pieces against it like insects around an arc lamp on a summer night.

And some say you don't have to set the job up where they can see it; no, you may hide it, keep it under lock and key, use your utmost ingenuity to restrict the bidding to the most select few; and yet the contractors will come hounding you, will bombard you with influence. You'll find that this director in your father-in-law's bank is in turn father-in-law to some ambitious builder who wants an opportunity to bid.

No matter how carefully you guard your secret, in these piping times of war, a hundred unknowns with influence behind them will storm your office for a chance to figure and a chance to lose.

Theodore Starrett.

ARCHITECTONICS



Iver Iversen was a draftsman and the kind of a man who was sure to land in a limousine or a lunatic asylum. Iver himself used to say that he was never quite sure that the word astute was not a syllable too long for his description. Everyone else surely thought it was until his scheme won a big competition for his architectural office, and then they changed their minds for good. But if he made an occasional discrepancy of a few feet in the dimensions of a working-drawing, wasn't he a genius, and do abstraction and addition ever make good partners? Iver's strength lay in invention.

He was blessed with imagination but at the expense of memory. In order to tie up a new idea, he found that he had to jot it down immediately and for this purpose always carried with him a little notebook. It would have taken a practical man a life-time to fill one of these little books. Iver filled about a book a month and then often lost it.

Ideas came to him in all kinds of places and once in the way of one, he paid little attention to time and space. When he finished his train of thought, experience in his forgetfulness prompted Iver to get the idea down instantly in black and white, and this he would

always do immediately no matter where he was. I have seen him stop a street car and then start to scribble while he blocked the traffic. Of course he usually lost his car, but his reasonable defense was that he didn't lose his train of thought and he learned quite a lot from the conductor's language, and there are many cars and very, very few ideas.

Iversen had taken up architecture to keep from being driven into law and this accidental choice was nevertheless a good one. He had a kind of geometrical mind, an imagination in three dimensions, and this made him very valuable in the solution of new problems especially in competitive work. He would first draw out rectangles representing the required floor space for each room, transfer their area to his mind and there juggle them round, changing their shape, fit



and refit them together until he had obtained a mental picture of the most compact solution of the problem which he would immediately reduce to paper with astonishing rapidity. No programme seemed to be too complex for this process. His mind acted like a screen on which his imagination threw moving pictures while he sat off and waited for the ideal combination. You can readily believe that a mind so absorbingly engaged would take little interest in such side-shows as the outside world of humdrum daily life could furnish. The only fly in the ointment was that the problem of a Competitive Programme had far less interest for him than problems presented to him by his inner self, the solutions of which were so absorbing that he was utterly powerless to interrupt them however great the gravity of the neglected work to his employer.

He didn't invent things as safety razors, and thermos bottles but solved the structural problems which architecture had put nearest to his hand, and his notebooks have advanced many a method of construction. Iver wasn't a patent office inventor and never seemed to

care to promote his own devices, so many a workable invention died untried or perished in lost notebooks.

While we were building Christ Church, he had some particularly weighty problem on his mind for never before had he gone to such extremes of absent-mindedness. Some days he came to the office hardly at all which we were fain to overlook because he had formulated the scheme which had won the competition for the church. A new notebook received sudden entries under the most unusual conditions. Once I saw him writing in it for an interminable space of time while a puzzled waitress balanced a soup plate over the place where there should have been no notebook. Again he sat serenely on a sewer pipe intently scribbling while unheeded a gang of interrupted workmen said violent things to him in Irish and Italian.



By the time the cornerstone was to be laid, Iver's troubles had passed over. A load seemed to have rolled off his mind and he was so unusually lucid and practical that I entrusted him with the task of taking to the rector the little leather-covered sheaf of church plans which the good man wanted to put with other documents into the silver box which went inside the cornerstone.

With solemn ceremony the cornerstone was laid. Little did we then suspect that in four short years Christ Church would ascend in smoke and into the cornerstone of new Christ Church would be replaced those documents which now rested so securely in their silver hiding place.

A few days afterward, I wanted a match and asked Iver if I might look for one in his coat which was hanging near me. What was my surprise to find in one of his coat pockets, the book of plans which he said he had given to the rector for the cornerstone. Iver was so dumbfounded at this discovery that I took the matter up with the rector himself in a casual way so as not to arouse suspicion. Imagine

my surprise when he positively stated that the plans were safe in the silver box under its tons of stone. Not wishing to further embarrass Iversen nor to agitate the rector by enlightenment, I held my peace about the mystery. Iver seemed more normal for a long time thereafter, and never was so wrapped up in notebook filling as he had been during those earlier days. He paid such astonishing attention to ordinary business that curiosity led me to ask what had been on his mind before.

"Just a little problem in concrete construction. The solution was so simple that it must have occurred to Adam," was his answer.

Three years later, enormous operations in concrete were started under the Cuyler Patents. We had a use for that type of construction in a factory job and Cuyler himself came round to explain his process. I was surprised to hear high voices in the drafting room.

Cuyler was yelling, "You all thought of it years ago! Every man I talk to says the same thing! You say three years! Why don't you say eight? Most of 'em say eight! My patents went through without a single hitch! There wasn't even a knowledge of the art!"

I saw a gleam behind Iver's spectacles.

"I said three years because I meant three years and I have my notes to prove it."

"Any man can extemporize old notes! Dig up real proofs" challenged Cuyler.

No reply from Iver. Instead, he got his hat and coat and left the office. About five he returned with dragging steps and a woe-begone expression.

"Mr. Thumtack, I can't find my notes. I don't care about his patents but I hate to have him think I lied."

Now I knew Iver well enough to be sure that he had thought out the great Cuyler invention when he said he had, but what could be done? It was only Iver's word against a solid patent. But he insisted that he had followed a most engrossing train of reasoning and had solved the problem of the concrete slab involving and antedating every phase of the Cuyler patent and that, as was his custom, he had immediately transcribed it in a notebook and that was lost. The first assumptions were difficult to reason out he said but when established, the conclusion was so obvious that he thought it must have been common knowledge. So the matter rested.

A year later Christ Church burned down. From its ruins the cornerstone was rescued and its sealed box removed intact and taken to the rector.

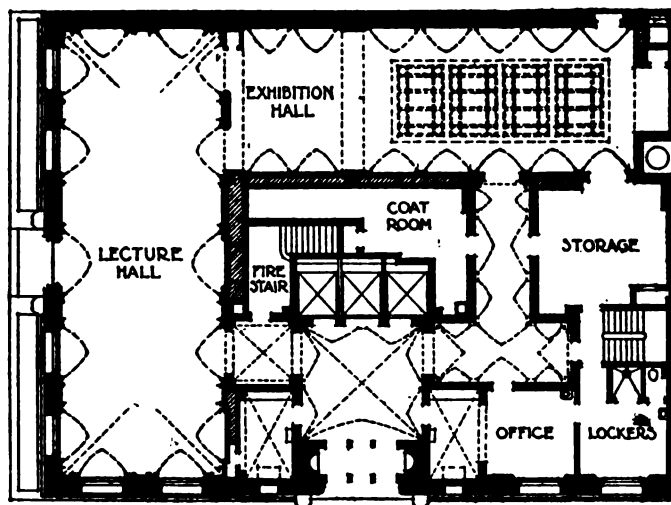
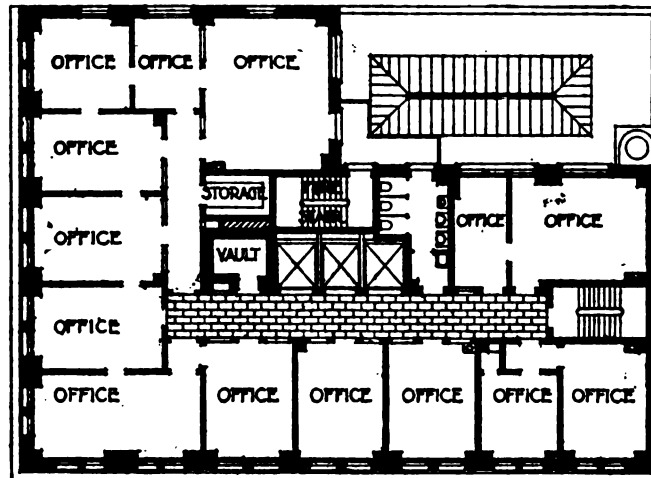
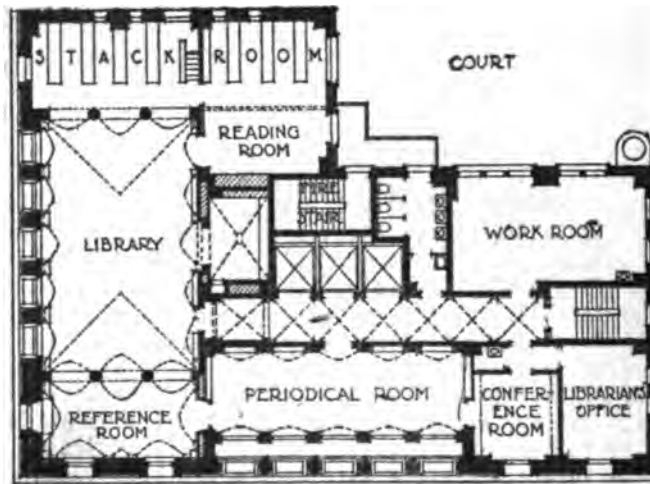
We designed the new Christ Church and I attended the placing in its cornerstone of the silver box from the old. To bring the records up to date, it was desired that the plans of the new edifice be added to the old ones now in the sealed box. The new plans were made, tiny plans like the old in a little leather cover, and it was with some anxiety, at the second ceremony, that I became one of a group around the silver box whose four-year seals were to be broken. I

knew that they would find no plans in it, for they were in my pocket at the moment.

When the seals were broken in the presence of the Bishop and the other dignitaries, and the contents of the box brought to light, among the formal documents was found a little musty, leather-covered book. The book of plans? No, for in a swift descent from the sublime to the ridiculous they came upon Iver's little notebook, which in a fit of absent-mindedness, four years before, he had given to the rector instead of the book of plans!

From the sublime to the ridiculous? Ah no! Let's hasten back to the high peaks of the sublime, for in that notebook were the very calculations and reductions, now miraculously authenticated, which proved past peradventure that Iver Iversen had been the originator of the Cuyler system.





RUSSELL SAGE FOUNDATION BUILDING. PLANS OF FIRST, SECOND TO SEVENTH AND LIBRARY STORIES.

Stanley Butts Used.

Grosvenor Atterbury, Architect.



RUSSELL SAGE FOUNDATION BUILDING, 22ND STREET AND LEXINGTON AVENUE, NEW YORK.

Builders: Charles T. Wills, Inc.
Cut Stone: George Brown & Co.
Terra Cotta: Federal Terra Cotta Co.
Metal Windows: The Leonard Sheet Metal Works, Inc.
Electrical Contractors: Albin Gustafson Co.
Plumbing: W. G. Cornell Co.
Painting: Frank Williams.
Miscellaneous Ironwork: Sexauer & Lemke.

Grosvenor Atterbury, Architect.



RUSSELL SAGE FOUNDATION BUILDING. ENTRANCE DOORS.
Ornamental Iron: Tiffany Studios.



VESTIBULE ENTERED FROM 22ND STREET.

Interior Stone: George Brown & Co.
 Miscellaneous Ironwork: Sexauer & Lemke.
 Cutler Mail Chute.
 Painting: Frank Williams.
 Grant Overhead Pulleys.
 Diamond Door Hangers.
 Newman Watchclock System.

Grosvenor Atterbury, Architect.



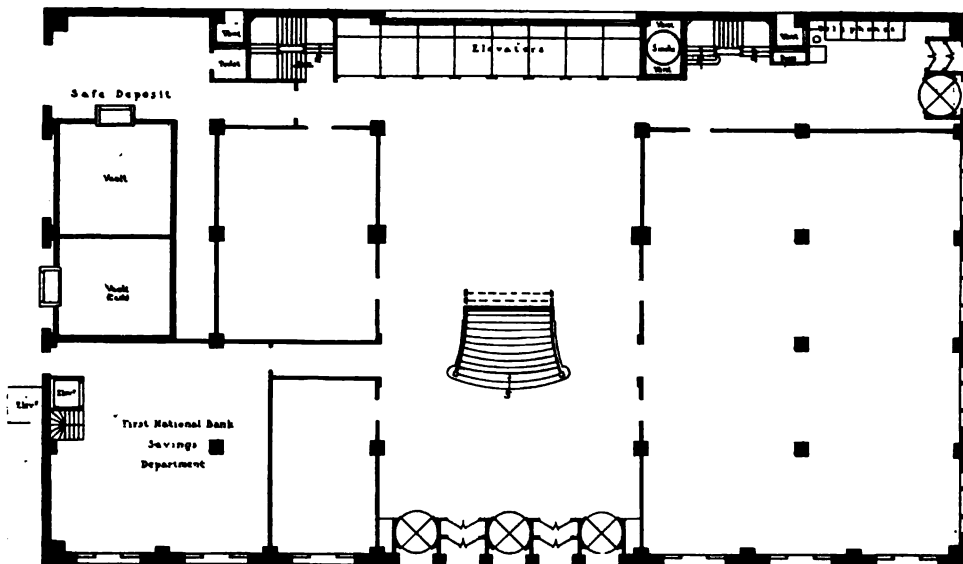
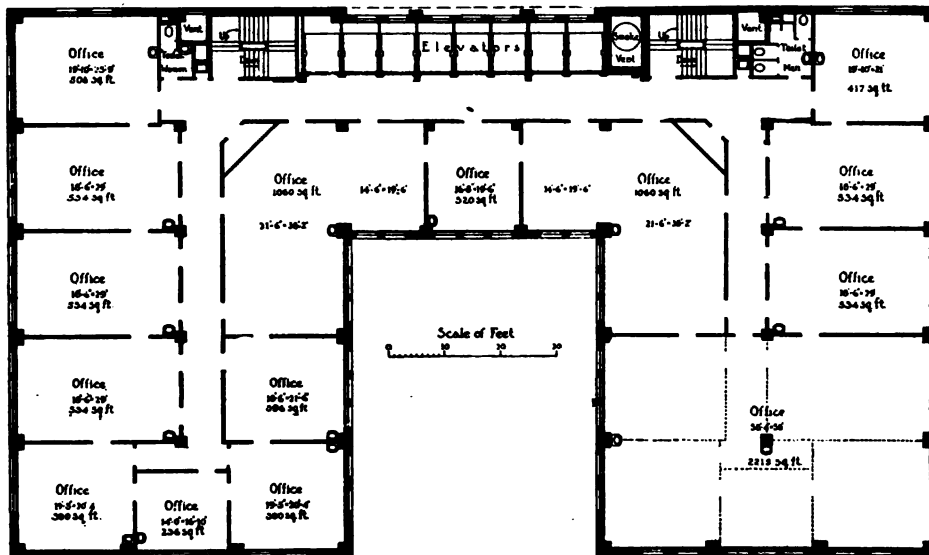
RUSSELL SAGE FOUNDATION. PERIODICAL ROOM.

Chairs: Anthony and Cowell Co.
Interior Stone: George Brown & Co.



RUSSELL SAGE FOUNDATION. LIBRARY.

Decorations: Tiffany Studios.



FIRST NATIONAL-SOO LINE BUILDING. FIRST AND TYPICAL STORY PLANS.



FIRST NATIONAL-SOO LINE BUILDING, MINNEAPOLIS, MINN.

Builders: Thompson-Starrett Co.

Heating and Ventilating: Mehring & Hanson Co.

Metal Windows: Winslow Bros. Co.

Robert W. Gibson, Architect.



FIRST NATIONAL-SOO LINE BUILDING. STAIRWAY TO SECOND STORY. ELEVATOR FOYER.
Painting: W. P. Nelson Co.
Ornamental Iron: Winslow Bros. Co.
Otis Elevators.
Cutler Mail Chute.



FIRST NATIONAL BANKING ROOM.

Ornamental Iron: Winslow Bros. Co.
Plastering and Metal Lath: C. O. Peterson Co.

Robert W. Gibson, Architect.

SCHOOL ROOM LIGHTING

(Continued)

By F. LAURENT GODINEZ

The fellow who said "it all depends upon the point of view" knew what he was talking about. In my first article on school room lighting, I directed attention to the importance of the *directional* effect of redistributed light: rays of light emitted from an illuminant which impinge upon its enclosing shade or reflector and are redirected by its reflecting surface, often in such a direction as to enter the eye at critical angles causing thereby intense annoyance and ocular discomfort.

To return to the "point of view," look at the first illustration on the next page. This looks like abominable lighting and so it is. The equipment consisted of five four-lamp chandeliers and one two-lamp chandelier, the latter being over the teacher's desk, there being one 16-candlepower, clear, carbon filament lamp in each socket fitted with a flat white porcelain 8½-inch reflector. The bottom of each lamp came to a point 6 feet 10 inches above the floor, bringing the lamps so low that they were within the visual field of practically every pupil in the room. Lighting of this sort is bad from any point of view and unfortunately it is typical of many schools. But the actual significance of its danger lies in the exposure of the lamps and their low position, for while the result of such an arrangement is most disagreeable to the eye with carbon lamps having an intrinsic brightness of 375 to 400 candlepower per square inch, it is positively dangerous with the Mazda type of lamp with its increased intrinsic brightness of 1,000 to 1,500 candlepower per square inch. This is two hundred times in excess of the safety limit prescribed by usage and custom which has accommodated the eye to perform its functions in safety with brightness of illumination of source ranging from 0.1 minimum, to 5 maximum in candlepower per square inch.

Now apparently things are greatly improved in the second illustration, showing the same room relighted but such is not

the case except from one point of view. The effect of clearness is due to the high placement of the lamps and reflectors, and the concealment of the lamps within them from view—from where the camera was placed. The effect of even or uniform illumination is due to the height of location, which in turn causes an even distribution of light downwards, so that there is no series of bright spots, but an even intensity of light on the plane of illumination. These two results would be entirely satisfying from an engineering viewpoint, but not from a physiological for the redirection of light from the prismatic reflectors used is such that the eyebrow can not exercise its protective function, and sharp rays of light are thrown into the lower regions of the retina causing a dangerous stimuli, which is all the more dangerous because the harm is incurred unconsciously. The use of reflectors which give a wide distribution of light, always results in an artificial effect of even, general illumination, until observed from a viewpoint where the lamps themselves are exposed to view (as they must be in reflectors giving a wide distribution), but, then, the glare is so painfully evident that the superficial impression fails.

It is possible to design concentrating reflectors of sufficient depth to effectually conceal the lamp within from view, providing the ceiling of interiors so lighted be of more than average height, and in new installations it is a good plan to countersink the reflectors in the ceiling, allowing a channel for ventilation, and covering the ceiling opening with an opal diffusing plate, not thick enough to absorb too much light, but of just sufficient density to hide the lamp filament from view, and reduce the intrinsic brightness of the source within limits of safety.

The appearance of all schoolroom outlets is a matter of importance, although no one would think so from an inspection of work which has been done. The color

of the schoolroom walls, the ceiling tint, and the finish of the woodwork is a matter of great importance, and one which is beginning to receive a part of the con-

finished surfaces so that decorators can apply to them the same tints used on ceilings. This results in the attainment of a neutrality in lighting which contributes



sideration which it deserves. Of equal importance as a part of the ensemble, is the appearance of the lighting equipment itself, which should be absolutely inconspicuous. After the problem of glare elimination, and the correct directional

very greatly to the element of repose which should be the dominant motif of schoolroom decoration. When perfectly realized this contributes greatly toward creating the ability to concentrate in the minds of pupils, who are constantly on



distribution of light has been solved, specifications should demand a co-ordination of fixture finishes with the ceiling treatment, and all metal plates or canopies should be installed with smooth un-

the alert, and anxious to regard anything which, as a disfraction factor, will take their minds momentarily from the work at hand. This subordination and blending of lighting equipment with the en-

semble can be effected at a less expense than is wasted in securing highly polished brass stems and plates and canopies, which are merely accentuated in all their ugliness by this treatment. The idea is exactly the same as applied to steam radiators or pipes which are never objects of art, and cannot be made so. Consequently when they are tinted to blend perfectly with their backgrounds they cease to become distracting factors and their unattractiveness is merged and gracefully subordinated.

It is invariably the subconscious effect which must be considered in planning the lighting and decorating of the schoolroom, for the undeveloped mind of the student is affected and influenced by things which impress themselves *subconsciously* but often with greater force than conscious impressions forcibly conveyed through tuition. The force of associated comparison is irresistible even in the childish mind, and why associate and link with the environment of the schoolroom lighting equipment which may be seen

in every barroom window? Is it not infinitely preferable to create an atmosphere in the schoolroom *different* from anything which is vulgarly prevalent, and, above all, soothing and agreeable in its psychological influence? In seeking neutrality, however, care should be taken to avoid austerity and dullness. For this reason warm amber tints are preferable to grays which, unless very carefully chosen for each case and modified by hangings, are inclined to be coldly severe and repellant. It is possible to attain a warm gray tint, but not without auxiliary decorative treatment which could not be reconciled with the simplicity of the schoolroom environment, whereas, warm yellow and cream tints properly blended on ceiling and side walls give an impression of cheerfulness and comfort which extends its influence even into the homes of pupils, who are thus intuitively pregnated with the fundamental principle of good decoration in even the most unpretentious surroundings—the elements of repose, comfort and harmony.

THE STANDARD ARCADE

SEVERANCE & VAN ALLEN, Architects

The Standard Arcade, entered from the Broadway level, has six stores on either side with elevator and stair corridor opening from the arcade at the centre. There is a stairway extending the entire height on each side and two elevators on one side. The stores are of two-story height with a double set of show windows and an interior mezzanine. The entrance on New Street is a story below and there are two stores, one on each side in an arcade at this level with an automat restaurant at the rear. A central stairway leads to the arcade on the Broadway level.

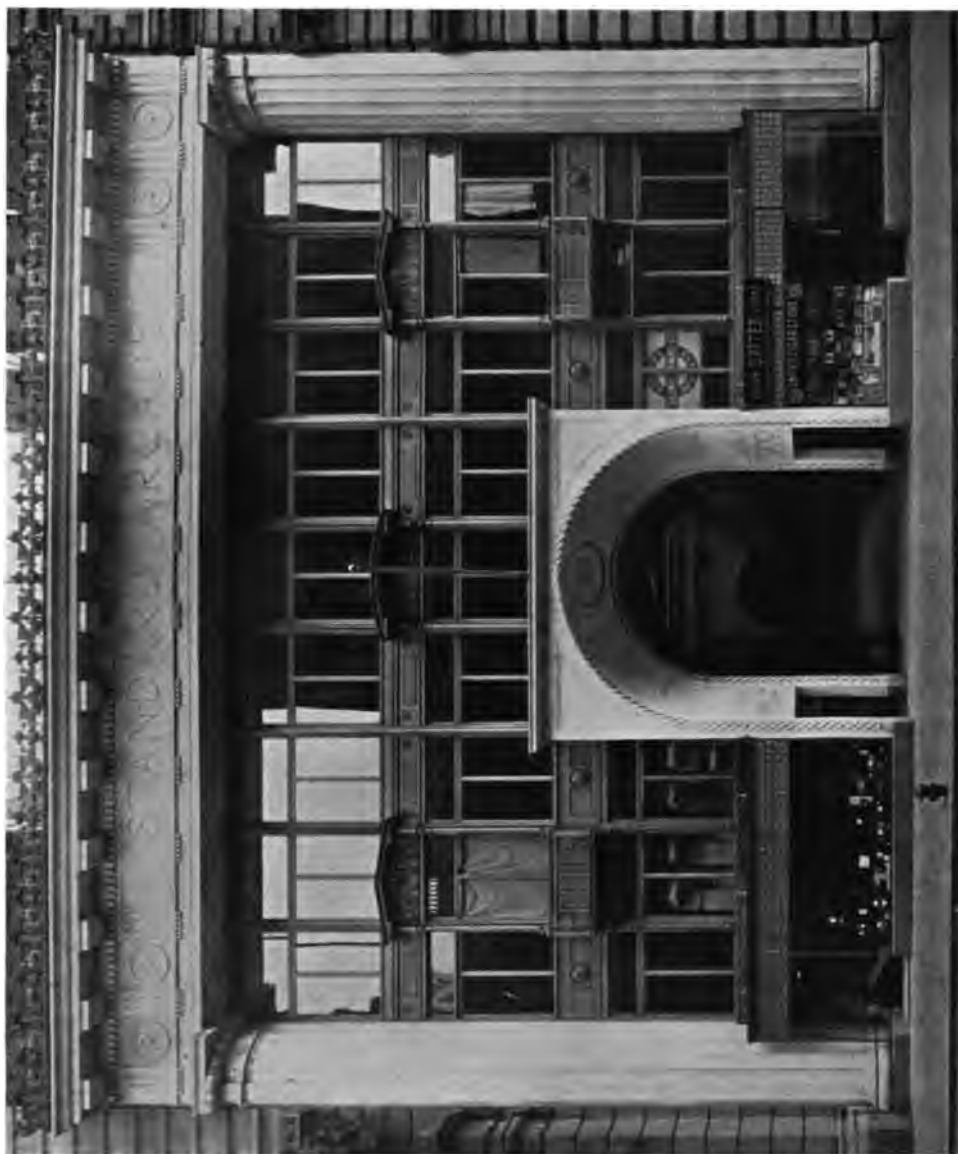
On the first story there is a wide office extending the entire length of the Broadway front with two offices connecting with it at either side of the arcade. At the rear there are two offices on either side.

On the second story there is a gallery

surrounding and overlooking the arcade with a connecting bridge across the centre openings. Off this gallery there are eleven offices. The arcade well is covered by a central skylight, glazed with wire glass with storm shields at either end. The sides are opened for ventilation.

The interior of the arcade is finished with Tennessee marble, with bronze trim about the store fronts of the first and second stories. The remaining metal work of window frames and door frames above is iron, painted pale green.

Severance & Van Allen are the architects and H. H. Marshall is the consulting engineer. The builders are the Cauldwell-Wingate Company. The exteriors are finished in marble, terra cotta and ornamental iron. Within the arched entrances the vaults are of ornamental terra cotta, made by the Federal Terra Cotta Co.



STANDARD ARCADE, 50 BROADWAY, NEW YORK.

Builders: Cauldwell, Wingate Co.
Cement Floors and Walks: Harrison & Meyer.
Cutler Mail Chute.
Bulletin Board: U. S. Changeable Sign Co.

Severance & Van Alen, Architects.
H. H. Marshall, Consulting Engineer.



STANDARD ARCADE. NEW STREET FRONT.

Terra Cotta: Federal Terra Cotta Co.
Ornamental Iron: Sexauer & Lemke.
Otis Elevators.
Chicago Spring Butts.



ARCADE STORES.

Builders: Cauldwell, Wingate Co.
Metal Trim: Interior Metal Mfg. Co.
Newman Watchclock System.

LARKIN WAREHOUSE, PHILADELPHIA, PA.

BALLINGER & PERROT, Architects

The Larkin Co. Warehouse is at the corner of 22nd and Arch Streets, Philadelphia. The area covered is 166 feet by 136 feet. It has twelve stories with basement and is approximately 180 feet high from street level. Owing to conditions of the soil and nearness to the Schuylkill River the foundations are carried to rock at an average depth of 25 feet below grade. The construction is entirely reinforced concrete. The floor system being of the flat slab type, the columns are of the wide head type provided with a plinth to receive the slab. Live floor loads are 170 pounds per square foot throughout. The roof surface is of the slag and gravel type. Metal window frames and sash are used throughout and

all openings are provided with metal doors. There is a sprinkler system supplied by a 40,000 gallon steel gravity tank located 25 feet above the roof. The building has a heating and lighting plant.

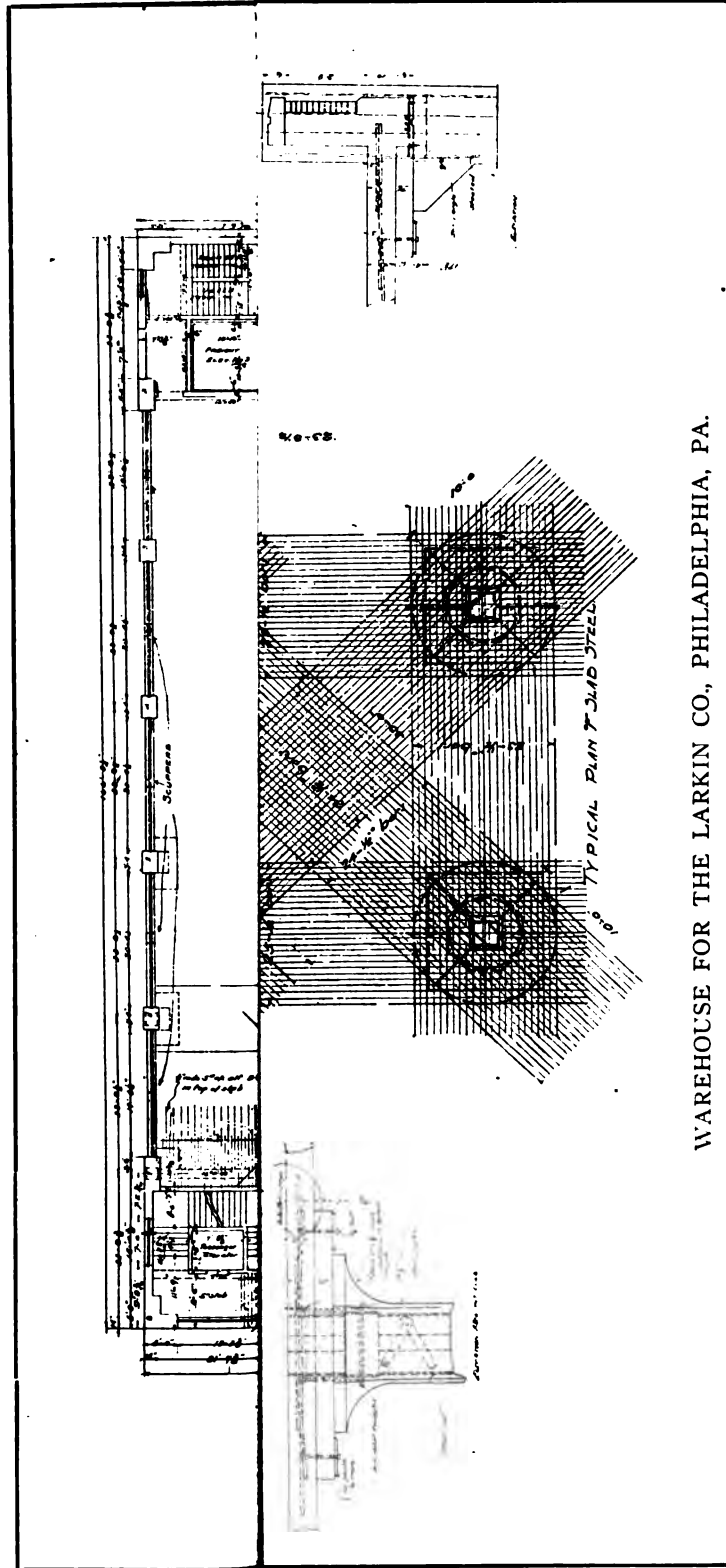
There are four elevators, one passenger and three freight, and also a special package lift extending to the fourth floor, and a spiral conveyor chute for packages opening from all floors. There are four stairways, one at each corner, three of which are of the Philadelphia fire tower type. A spur track from the Baltimore & Ohio Railroad runs into the first story to a shipping platform.

Ballinger & Perrot were the architects and engineers, and the Aberthaw Construction Co., general contractors.



INTERIOR OF ONE OF THE STORIES.

Evans' "Crescent" Expansion Bolts.



WAREHOUSE FOR THE LARKIN CO., PHILADELPHIA, PA.

Copyright, 1915, by The Wm. T. Comstock Co.
 Supplement to Architecture and Building.

Ballinger & Perrot, Architects.



LARKIN CO. WAREHOUSE, PHILADELPHIA, PA.
Ballinger & Perrot, Architects.



ARNOLD, CONSTABLE & CO., 40TH STREET AND FIFTH AVENUE, NEW YORK.

T. J. Bartley, Architect.

Builders: Niemann & Luth, Inc.

Otis Elevators

Star Expansion Bolts

Plumbing: V. S. Rittenhouse, Inc.

Wilson's Rolling Steel Shutters.

Cutler Mail Chute.

Asbestos Pipe Covering: New York Asbestos Co.

ARNOLD, CONSTABLE & CO. STORE

T. J. BARTLEY, Architect

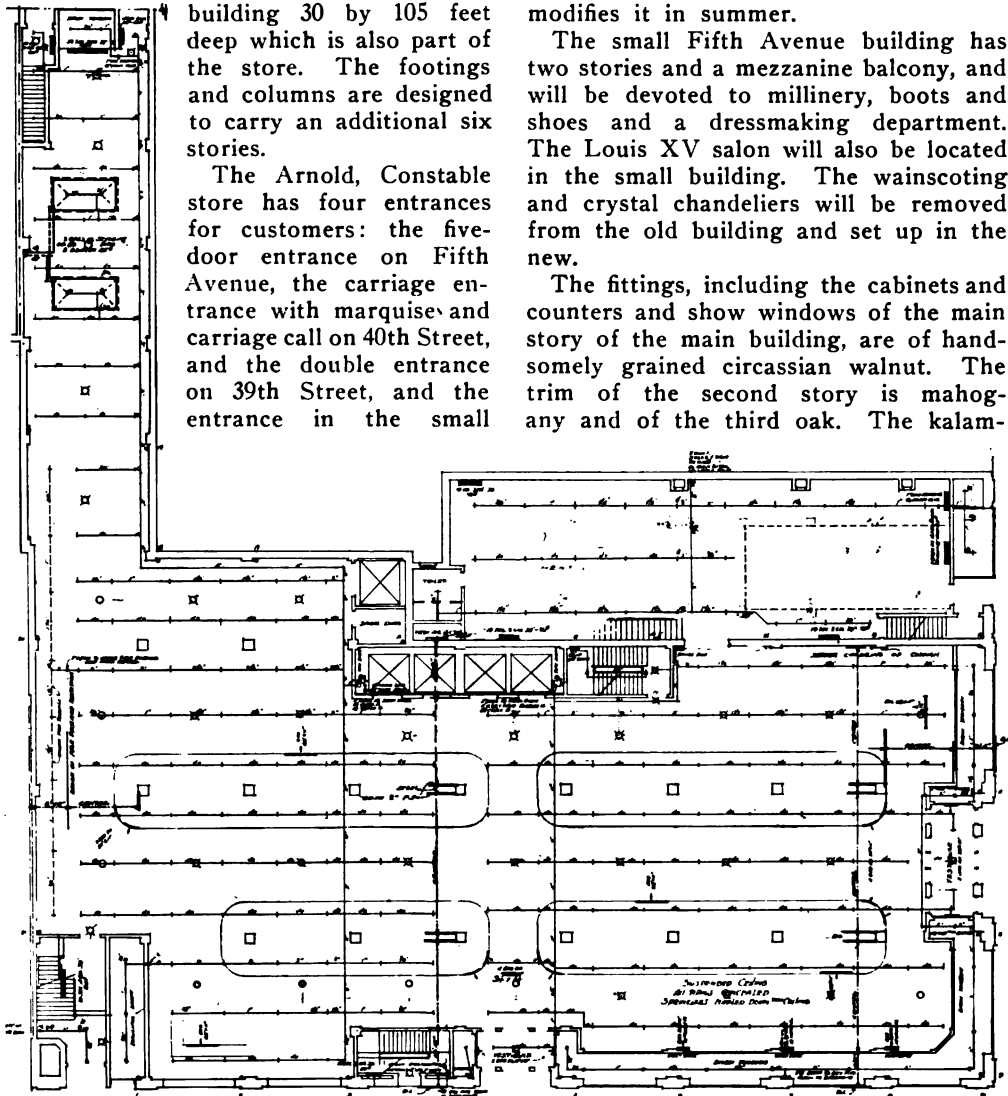
This new store, the exterior built of limestone with a granite base, is six stories high with a frontage of 82 feet on Fifth Avenue and 175 feet on 40th Street, with a 25-foot extension one story high running 99 feet through to 39th Street, at the back of the Union League Club, which occupies the corner of 39th Street and Fifth Avenue. Adjoining the main building on Fifth Avenue is a two-story building 30 by 105 feet deep which is also part of the store. The footings and columns are designed to carry an additional six stories.

The Arnold, Constable store has four entrances for customers: the five-door entrance on Fifth Avenue, the carriage entrance with marquise and carriage call on 40th Street, and the double entrance on 39th Street, and the entrance in the small

building. The 39th Street entrance has the show window at the center with a door at either side. The entrance vestibules are separately heated by direct radiators so that in mild winter weather these can be heated independently from the main store and the general temperature of the store more evenly regulated. The first story is heated indirectly by an air washing, tempering and ventilating system which heats the air in winter and modifies it in summer.

The small Fifth Avenue building has two stories and a mezzanine balcony, and will be devoted to millinery, boots and shoes and a dressmaking department. The Louis XV salon will also be located in the small building. The wainscoting and crystal chandeliers will be removed from the old building and set up in the new.

The fittings, including the cabinets and counters and show windows of the main story of the main building, are of handsomely grained circassian walnut. The trim of the second story is mahogany and of the third oak. The kalam-



FIRST STORY PLAN SHOWING SMALL 5TH AVENUE STORE AND 39TH STREET EXTENSION.



ARNOLD, CONSTABLE & CO. STORE. FIRST STORY, MEN'S FURNISHING DEPARTMENT.
SECOND STORY, LADIES' APPAREL.

Builders: Niemann & Luth, Inc.
Evans' "Crescent" Expansion Bolts.
Painting and Decorating: Charles Grimmer & Son.
Chicago Spring Butts.
Newman Watchclock System.

eined work of each story is carefully grained to match the natural woodwork and is a most successfully finished imitation.

There are four passenger elevators in one bank on the south side of the store, half way back, which run to the sixth story, each of 3,500 pounds capacity. The freight elevator is of 4,500 pounds capacity and all machines are of the Otis 2-1 traction type. There are four enclosed fire stairways of which, one at the rear, and the one at the south side behind the elevators connect with the main story and also with passages leading to the street, one to Fifth Avenue, the other to 40th Street. Customers may leave any of the upper floors in cases of emergency without entering the main story, by these passages.

There is an interior local fire alarm system and a headquarters connection through the Manhattan Fire Alarm Co. The sprinkler system is of the concealed pipe type supplied from four roof pressure tanks of 7,500 gallons capacity each. The risers for the sprinklers with the control valves are in wells adjoining the elevators so that they are not exposed to view from the floors. The stand pipes rise in the stair wells. All windows are in metal frames and wire glass is used even in the street windows above the second story.

The circulation of the first story is provided for by the wide center aisle from the Fifth Avenue entrance and the wide cross aisle between the elevator and the 40th Street entrance. The first story is used for many departments of general merchandise, the second for women's apparel and the third and fourth for rugs, upholstery, hangings and carpets. The executive offices are also placed on the fourth story and the fifth and sixth stories are occupied by the wholesale departments.

The tube system for sales transactions uses the same tube for both directions and has two types of carriers, one for cash and one for credits. The tube branches near the end and each type of carrier switches off to its particular de-

partment. The tubes of this system are all concealed in wells adjoining the elevator enclosure and open into the packing stations of the different stories. For customers' complaints by telephone there is an audit table where an operator searches out the complaint through the various departments in the hearing of the customer, a small courtesy which alleviates the tension of "holding the wire."

The shipping of orders is handled in one direction always. Bulky goods from the third story up reach the basement shipping department by the freight elevator. Goods from the packing stations on the second story reach the basement by a spiral conveyor. Packages made up on the first story drop through chutes to belt conveyors leading to the shipping and sorting table. There all packages are sorted into bins, the contents of which are taken in cars by an escalator to the delivery wagons at street level. This escalator is reversible so as to return the cars to the basement level. Throughout all the departments of the shipping rooms all packages are handled in one direction reducing hand labor to a minimum.

The lighting is of direct, indirect type, a special glass being used in the fixtures which are equipped with 750 watt type C lamps. For matching colors and mournings goods there is a separate room with daylight value lighting. The show cases are equipped with linolites concealed in the construction. The lighting of each case is controlled locally on independent switches. The panel boards are all equipped with safety snap switches.

T. J. Bartley is the architect and the building was erected under the supervision of F. C. Dexheimer and the consulting engineer for Arnold, Constable & Co., George H. Wilson. The builders were Niemann & Luth, Inc. The cases, counter cabinets and all store fixtures are of special design, built by John I. Downey, Inc. The plumbing contract was held by V. S. Rittenhouse, Inc., and the pipe covering was supplied by the New York Asbestos Co. The painting and decorating was done by Charles Grimmer & Son.



THE MAY CO. STORE, CLEVELAND, O.

Builder: James Black Masonry & Construction Co.
 Terra Cotta: The Northwestern Terra Cotta Co.
 Hollow Metal Doors and Trim: Interior Metal Mfg. Co.
 Niedecken Mixers for shower baths.
 Tower Clock: E. Howard Clock Co.

Graham, Burnham & Co., Architects.

THE MAY CO. STORE

GRAHAM, BURNHAM & CO., Architects

The new building for the May Company occupies a lot 200 by 480 feet, or an area of 96,000 square feet, extending from Euclid Avenue to Prospect Avenue. Covering an area on each floor of nearly $2\frac{1}{2}$ acres, or a total floor space of 15 acres, the new building rises to a height above the parapet of 100 feet and is one of the most impressive buildings of the splendid group now growing up around the square, which is the strategic center of Cleveland for business and transportation.

The exterior of the building carried out in terra cotta is a free interpretation inspired from the style of the French Renaissance. The lower story has ornamental iron store fronts most suitable for the convenient display of merchandise. An elaborate parapet carrying decorative light bearing standards with a great sign at the center carrying the name of THE MAY COMPANY and surmounted by an illuminated clock crowns the building.

An interesting feature of the plan is the arcade on the Euclid Avenue front. By this arrangement the display window area is nearly tripled and two very attractive entrances to the store are effected. The section across the arcade shows the arrangement and depths of the windows. In the main window the central partition is removable so that for very large displays an ample space is provided.

The circulation through the store is well conceived. From the two principal en-

trances on Euclid Avenue, aisles of extra width run directly through to two entrances on Prospect Avenue. The cross aisles in the store are also very wide, so that thousands of people can shop in comfort without confusion. For communication with the upper floors twenty-three passenger elevators are provided and four double escalators.

Among the interesting features of the store are a large children's playground on the third floor, in charge of a trained kindergarten; an auditorium seating 500 people, in which are held recitals, style shows and events of a similar nature; and the employees' quarters on the fifth floor, in which have been provided dining rooms, rest rooms, library, shower baths and gymnasium, in conjunction with a large roof garden fitted with tennis and hand ball courts and pergola promenade.

Designed by Graham, Burnham & Co., the building was erected by the James Black Masonry and Construction Company. The terra cotta of the exterior was supplied by The Northwestern Terra Cotta Co. The construction is of the usual steel frame type fireproofed, with hollow metal doors and trim throughout. The stairways and escalators extending from story to story are encased in metal and glass partitions, thus all floor openings between stories are protected, which effected a reduction in insurance rate. All of this metal work was done by the Interior Metal



FIRST STORY PLAN SHOWING DOUBLE SHOW WINDOWS OF THE ARCADE.



Soda Fountain: The Bishop-Babcock-Becker Co.



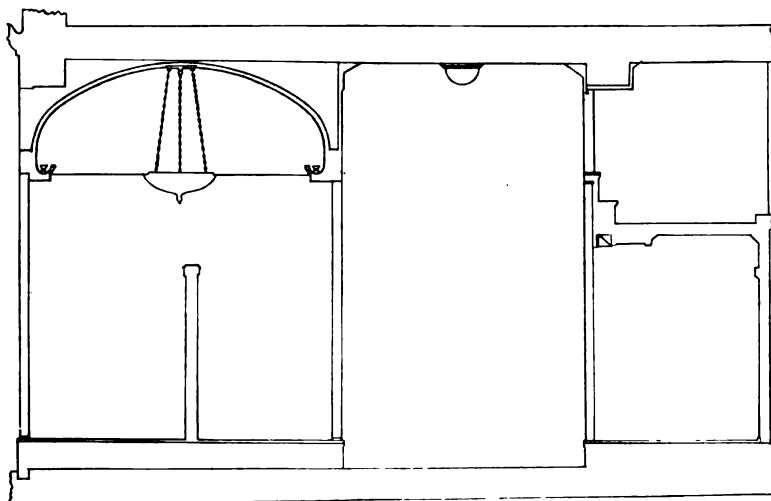
THE MAY COMPANY STORE. FIRST STORY. JEWELRY DEPARTMENT, SODA FOUNTAIN.



Entire Woodwork, Showcases and Tables: Miller, Haas & Co.



THE MAY COMPANY STORE. SECOND STORY, GOWNS AND MILLINERY.



SECTION THROUGH SHOW WINDOWS AND ARCADE.

Manufacturing Company. In the millinery department Miller, Haas & Co. did the woodwork, showcases and tables.

For the basement and first story there is mechanical ventilation. The building is sprinklered throughout with an open pipe system except in the first story and other special rooms. The mechanical plant includes refrigeration machinery of large capacity supplying refrigeration for the soda fountain and all other purposes.

For the distribution of electricity for light and power circuits a switchboard equipment was specially designed by the architects and built by the Cleveland Switchboard Co. The main switchboards

are two in number, one in the basement of the Euclid Avenue extension, and the other in the Prospect Avenue extension. The boards are built of blue Vermont marble. Switches and bus bars are designed for 800 amperes per square inch. All fuses are mounted on the rear of the board on separate panels and the bus bar work and connections are specially designed to combine efficiency and accessibility. The power switchboards are built with back connection switches and with buses on the rear. The entire board is then mounted in a steel cabinet having double doors on front and doors on each side to provide ready access to the rear.



SWITCHBOARD IN MAY CO. STORE.

Made by the Cleveland Switchboard Co.



SOUTH PARK HIGH SCHOOL, BUFFALO, N. Y.

Green and Wicks, Architects.

Builder: George Baker Long.
American Enamelled Brick Used.
Barrett Roofing and Waterproofing Materials Used.
Otis Elevators.
Star Expansion Bolts.



SOUTH PARK HIGH SCHOOL. AUDITORIUM.

Builder: George Baker Long.
Chicago Spring Butts.
Interior Woodwork: Louisville Planing Mill and Hardwood Flooring Co.

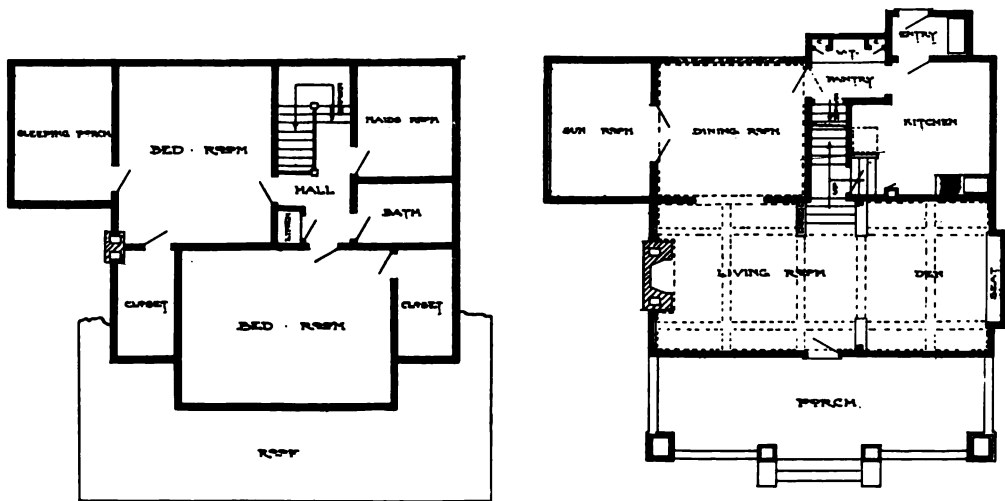


SOUTH PARK HIGH SCHOOL. FACULTY ROOM AND LIBRARY.

Painting: W. P. Nelson Co.

Keystona Flat Finish on Walls and Ceilings.

Interior Woodwork: Louisville Planing Mill and Hardwood Flooring Co.



HOUSE AT OMAHA, NEBRASKA.

Everett S. Dodds, Architect.



L OF LIVING PORCH

ETHRIDGE FARM
 DETAIL F. W. Dussal Esq.
 GREENWICH CONN.

Frank Eaton Newman, Archt.
 1123 Broadway - New York

December, 1915

ARCHITECTURE AND BUILDING

Medical
JAN 8 1915 Engineering
LIBRARY
UNIV. OF MICH.
Twentieth Century Irresponsibilities
By Theodore Starrett

Club Houses

Detail Plate of Tile Work

House Designs

Published by
The William T. Comstock Company
New York
20 c. a copy. \$2.00 a year.



You can tell a
"GLOBE"
VENTILATOR
 as far as you can see it

Its substantial, dignified lines are characteristic of the quality of workmanship and material which recommend the "Globe" for use on any class of building where correct principles of ventilation and the highest standard of efficiency are required.

Look for them—you cannot mistake the shape. And you'll find them wherever you go. Catalogue on request.

Address Dep't C.

GLOBE VENTILATOR CO
 TROY, N.Y.



A $\frac{3}{4}$ " inside facing of Impervite mortar will waterproof any leaky cellar or pit. Satisfaction guaranteed or money refunded.

SPECIFY IMPERVITE

It is the only Asphaltic Emulsion Waterproofing Compound. Practically all others contain Calcium-Stearate or other soap.

Impervite Is Guaranteed Twice as Efficient

See page 45 of Sweet's 1915 Catalog, or send postal for free "Book 91" containing valuable hints.



Opportunity Knocks At Your Door Through "F-S" Products

They say that Opportunity knocks but once to every man, but you can secure good results every day with our Imperial Spar Varnish. It is light, clear and of medium body; **dries without dust in 8 hours**; does not turn white; is unaffected by heat and moisture, and is durable indoors and out.

FELTON, SIBLEY & CO., Inc.

Manufacturers of Colors, Paints and Varnishes since 1863

136-140 North Fourth Street,

Philadelphia

(120)

ARCHITECTURE AND BUILDING

A Magazine Devoted to Contemporary Architectural Construction

WILLIAM P. COMSTOCK
Managing Editor

THEODORE STARRETT
Contributing Editor

Volume XLVII

DECEMBER, 1915

Number 12

The workingman—likewise woman—has found somebody to take care of him—likewise her. Everyone of them consciously or unconsciously travels in a kind of aura of irresponsibility, thanks to the politician whose sympathies—or perhaps I should say whose high hopes of votes—have been aroused by the activities of labor leaders. And no complaint from me about those same leaders; they have done well and are entitled to full credit.

I should apologize for using such a phrase as aura of irresponsibility in any address to a builder but if he will only read the words over a few times the meaning may dawn on him. Or he may read on and get the idea that way.

The risks that a man assumes when he hires anybody to work for him in the States of New York and New Jersey, for instance, are simply appalling. We have come to a time when every single employer even though he hire only one man or a lone maid servant ought to take out an employer's liability policy. If he can't or won't do that he should refrain from employing any help at all and should do everything himself. This is resolution, the resolving of the business of hiring help into its original elements and letting the hired man go one way and the boss the other.

There's one thing called revolution which means an upturning and a rearrangement. Resolution means what I have just said or, in other words, disintegration, the separation of things into their original and simple elements and making them stay separated.

This is what the forces at work on the building industry have been doing. Whether it is the owner or the architect or just plain simple human nature, the resolution of the industry has been going on for a good while now and if somebody does not wake up and call a halt in such commanding tone as really to make a halt there will some day be no building industry.

The practice of making builders go through the terrific antics to save their bacon that our friend the frog had to go through is

only one of the things that breaks up or rather breaks down the men engaged in building.

The irresponsibility of the workingman—and woman—is another thing that is helping. I spoke of the need of employers' liability insurance for every man who employs even a single assistant. Why, if you hire a man to whitewash your chicken coop and he stubs his toe while doing the job he may break his arm or his leg or worse and you will have to pay him wages for I don't know how many weeks and you will have to do this or suffer the penalty of the law—jail or some severe fine. There's no escaping it or evading it; no such thing as standing it off with a lawyer's help.

I know a man in whose home the servant girl fell down stairs and broke her wrist and he had to pay her wages for something like forty weeks.

There was no escape for him. Contributory negligence—that old Common Law standby of the Liability Insurance people—could not be worked to save him from the just consequences of his carelessness in letting the girl fall down the stairs, or in fact from having a stairway in his house. The law had him in its grasp automatically from the instant the accident happened and that was all there was to it.

That is only a sample of the way the workman has induced the public to practice the Bible teaching about man being his brother's keeper.

Who is going to keep the unhappy employer?

Must the poor devil go on forever and forever finding it harder and harder to contend against the obstacles that are placed in his path?

Each new leap is harder than the last for the rising generation of frogs as I am firmly convinced.

Did you builders ever stop to think that competition is getting to be like an auction? (I wonder if there is any builder who has torn himself away from his lists of new contracts long enough to be reading this.) You know what an auction generally is—the last desperate, dying effort to realize. It means sacrifice, loss, anything to get some money out of the thing sold. Auctions are patronized by bargain hunters, people want to buy things for a song, for ten cents on the dollar, for one cent on the dollar, to get them for nothing and let the other fellow lose.

Well, competitive bidding nowadays is a reverse auction in which is ferreted out the poor devil who makes the biggest mistake or is the stupidest fool. It never finds the man who knows how to do the thing, who has the best facilities, who has done it before. No, it hunts the sucker and it finds him every time.

Who or what will protect the builders from themselves even as the workmen are protected from themselves?

Theodore Starrett.



CLUB HOUSE BUILDINGS

COLONY CLUB.

The new Colony Club building is at 62d Street and Park Avenue. The construction of this building was made necessary by the rapid growth of the club, which built a structure on Madison Avenue only eight years ago, which they are now abandoning as inadequate to their needs.

The new club house, built from designs of Delano & Aldrich, was erected by the Norcross Bros. Company. The structure covers a plot of 100x120 feet and within its apparent four story façade it contains seven full stories. The ideas originated in the old club of providing quarters for special entertainments, so that members could give dinners and dances to non-member friends, are more elaborately developed in the new house. These special rooms are segregated from the rest of the club and provided with a special entrance on 62d Street. The members' entrance is on Park Avenue and the plan is so arranged that members may use the club without coming into contact with the guests of special entertainments. The club is complete in all its appointments and accessories and beautifully finished and decorated. Estey Bros. Company carried out the ornamental iron work, installing a fine stair rail in the main hall.

KNICKERBOCKER CLUB.

The Knickerbocker Club occupies a site 75x125 feet on the corner of 62d Street and Fifth Avenue. It was designed by Delano & Aldrich and was built by John I. Downey, Inc. The building is of red brick with a white marble base and trimmings. The court on the Fifth Avenue side is of

architectural interest and the wall of the adjoining property has been decoratively treated to improve the outlook from the club windows. C. F. Stromeyer Company did the decorations and furnishings of the club house interior. The Wells Architectural Iron Company did the ornamental iron work, interior and exterior, and J. Livingston & Co., Inc., were the electrical contractors.

YALE CLUB.

With the exception of an exterior fire stair, the Yale Club building covers the entire lot for the first seven stories; but above that to the twentieth and top the plan is L-shaped, providing an interior light court. There are three passenger elevators and an enclosed fire stair at the north wall, and upon the west wall three freight and service elevators and another stair extending the full height of the building.

The entrance, covered by a light awning, is unobtrusive and is placed in the center of the Vanderbilt Avenue side. Passing from the entrance through a small vestibule, one enters the lobby with the passenger elevators to the right, and at the back of the hall, a check room and a stairway to the second story.

Proceeding to the second story the stair hall is ample and provides space for a cigar stand, and at one end a small bar. The social hall occupies the front of this story and is a story and a half in height. This room is decorated in soft tones of gray and cream white with an elaborate coffered plaster ceiling. The hangings and carpet are Yale blue. An extra stairway leads from the main stair hall of the second story to



COLONY CLUB, NEW YORK.

Delano & Aldrich, Architects.

Builders: Norcross Bros. Co.
Ornamental Iron: Estey Bros. Co.
C. & C. Motors.
Fireproof Doors, Windows and Trim: Reliance Fireproof Door Co.



KNICKERBOCKER CLUB, NEW YORK.

Builder: John I. Downey, Inc.
 Decorations and Furnishings: C. F. Stromeyer Co.
 Awnings: Joseph P. McHugh & Son.
 Chicago Spring Butts.
 Bay State Cement Coating for Waterproofing.

Ornamental Iron: The Wells Architectural Iron Works.
 Electrical Contractors: J. Livingston & Co., Inc.
 Stanley Ball Bearing Butts.
 C. & C. Motors.

Delano & Aldrich, Architects.

the grill room floor above. The grill room occupies the space immediately above the stair hall and is a story and a half in height. An adjunct of this story is the second story mezzanine, which is immediately above the social hall and is occupied by the billiard room, with a gallery overlooking the grill room. In the fourth story there is a library and several card rooms.

The fifth and sixth stories form an athletic unit. In the fifth story there is a locker room containing five hundred and sixty metal lockers, with accompanying toilet rooms, shower, turkish bath and tank room. The tank is 26 x 40 feet, ranging from five to nine feet in depth. The finish of the toilet rooms, showers, turkish bath and plunge is in $\frac{3}{4}$ -inch terrazzo tile. The sixth story connects with the fifth by a special stairway and contains a gymnasium and five squash courts. The ventilation of this story is forced with fresh air inlets at the floor level of each court and exhaust ventilators at the ceiling. The mezzanine story above has a gallery overlooking the courts.

The stories from the seventh to the seventeenth, eleven in all, are laid out for sleeping rooms. There are fifteen rooms in each story, each one provided with a bath room and a large closet. The furniture of the rooms is of wood and an unusual and

convenient feature is the arrangement of the lighting. The lighting fixtures are fastened to the furniture, the bureaus being provided with side lights, the bed with reading light and desk with a special light. By the frequent installation of base plugs, the furniture may be moved about the room and connected as desired.

The dining room and kitchen equipment occupy the eighteenth, nineteenth and twentieth stories. The main dining room, a room finished in white with maroon carpeting and hangings, is in the twentieth story. The dining room itself occupies the main wing of the building, while the serving pantry is in the narrow wing. Three automatic dumbwaiters connect this serving pantry with the kitchen in the nineteenth story and also run to the serving pantry in the eighteenth story. A special service stairway connects all three stories. The kitchen in the nineteenth story is well ventilated and laid out for a quick and efficient service. In the eighteenth story there are four private dining rooms, two of which are of large size, divided by a folding partition. The wood work and ceilings are in white and the walls contain panels of old-style wall paper.

YALE CLUB PLUMBING WORK.

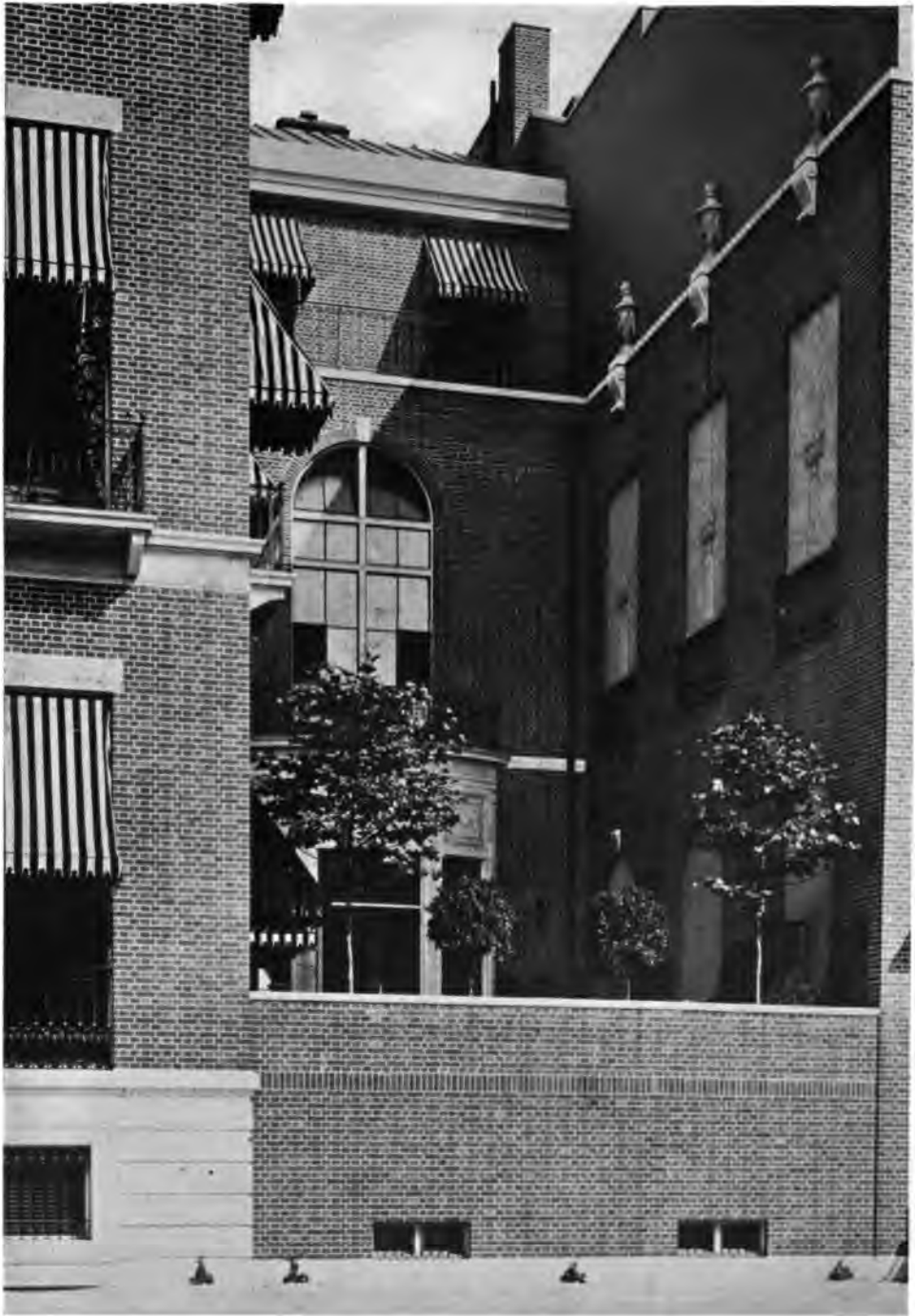
The site of the building was leased from the owners of the Grand Central Station and is directly over the railroad yard. The terms of the lease required that there be no projections of any kind below a certain given level. This condition necessitated designing special steel and providing many holes in the structural members to accommodate the plumbing pipes for drainage of the basement, which contains the entire mechanical equipment, the locker rooms and toilets for help. As the basement floor is supported on steel, all moving machinery is of a type to avoid vibration which might be transmitted through the building.

The bed room section, located from the 7th to the 17th stories inclusive, with large club rooms above and below, contains most of the plumbing fixtures. Many of the columns occurring in the bed room section are omitted in the club rooms, and are carried on girders at the ceiling of the 6th story. The bath rooms are ventilated by mechanical means. In order to pass the soil and vent pipes from the bath room fixtures through the club rooms it was necessary to run large horizontal drains and vents at the 6th and 17th story ceilings and carry them to the basement and roof at two main points.

To prevent the possibility of storm water



A HARVARD CLUB BEDROOM.
Whitcomb Brass Beds.



KNICKERBOCKER CLUB, COURT ON 5TH AVENUE.

Decorations and Furnishings: C. F. Stromeyer Co.
McHughwillow Furniture.
Electrical Contractors: J. Livingston & Co., Inc.



YALE CLUB, ENTRANCE ON VANDERBILT AVENUE.

Ornamental Iron: The Wells Architectural Iron Works.
Cut Stone Contractors: George Brown & Co.
Cement Floors and Walks: Harrison & Meyer.
C. & C. Motors.



YALE CLUB.

Builders: Marc Eidlitz & Sons.
Chicago Spring Butts.
Whitner Window Safety Devices.
Plumbers: J. N. Knight & Son.
Otis Elevators.

James Gamble Rogers, Architect.

Clyde R. Place, Heating & Ventilating Engineer.
William C. Tucker, Sanitary Engineer.



ENTRANCE HALL. YALE CLUB.

Cutler Mailing System.
Newman Watchdog System.
Ornamental Iron: The Wells Architectural Iron Works.
Lighting Fixtures: Edward F. Caldwell & Co., Inc.



LOUNGE, SECOND STORY. YALE CLUB.

James Gamble Rogers, Architect.

Drapery Materials: The Orinoka Mills.
Howard Clocks.
Plasterers: John J. Roberts Co.
Painting: The Barker Painting Co.



GRILL, THIRD STORY. YALE CLUB.



Interior Furnishings: W. & J. Sloane.



James Gamble Rogers, Architect.

GRILL, THIRD STORY. YALE CLUB.



Painting: The Barker Painting Co.



PRIVATE DINING ROOM. YALE CLUB.

or waste from the swimming pool backing up through the plumbing fixtures an 8 inch drain separate from the domestic sewage system was installed.

The domestic drainage of the building is provided for by an 8 inch house sewer, house trap, fresh air inlet, a house drain and 10 soil stacks.

The water supply to the building is obtained from a 4 inch tap from the public main in 44th Street, and passes through a 4 inch Worthington fish trap and disc meter.

All of the water used in the building is filtered through two sets of Baltimore filters, each having a capacity of 150 gallons per minute.

The large quantities of slightly heated water which wastes from the 20 ton refrigerator plant is taken to separate compartments in a suction tank and is used for the pool and the domestic hot water. The water from the filters passes to a 15,000 gallon $\frac{3}{8}$ inch steel suction tank. This water is pumped by three Quimby pumps to the house tank and the hot water storage, which are located in a pent house on the roof, and to the swimming pool. The water to the pool first passes through a Patterson hot water heater, having a capacity of 9,000 gallons per hour from 50 to 85 degrees Fahrenheit.

The domestic hot water is heated by a Patterson hot water heater having a capacity of 8,000 gallons per hour from 50 to 160 degrees Fahrenheit, and is circu-

lated by a Quimby pump having a capacity of 50 gallons per minute.

The building is equipped with a complete fire protection system, including two siamese connections, fire lines, a Quimby fire pump, two stand pipes, two "Peerless" Howard hose racks, and Eureka "Underwriter Best" linen hose, in each story with Ford pressure reducing valves on stand pipes, as required by the Fire Department.

The gas system of the building includes emergency gas lights in stairs, halls and basement, together with power gas for kitchen fixtures and incinerator.

All drainage, vent, fire lines, stand pipes, cold water and accessible hot water piping is standard full weight galvanized genuine wrought iron Byer's pipe. The inaccessible hot water and circulation piping is brass, of iron pipe size, American Tube Company's make.

The plumbing work was installed by J. N. Knight & Son, under the direction of James A. Coyle, Jr., assistant to William C. Tucker, the sanitary engineer for the work.

The heating of the building is by a hot water system, which is connected with the heating system of the Grand Central Terminal, said to be the largest hot water heating system in existence. It is a three pressure system, with the amount of heat going into the building accurately measured by meters and gauges. Direct radiators are used throughout with an auxiliary exhaust and supply ventilating system which fur-



BILLIARD ROOM, THIRD STORY MEZZANINE. LIBRARY, FOURTH STORY. YALE CLUB.
Plasterers: John J. Roberts Co. James Gamble Rogers, Architect.



DINING ROOM, TWENTIETH STORY. YALE CLUB.

Drapery Materials: The Orinoka Mills.

Lighting Fixtures: Edward F. Caldwell & Co., Inc.

James Gamble Rogers, Architect.



HARVARD CLUB, NEW YORK.

Chicago Spring Butts.
Whitner Window Safety Devices.
Ornamental Iron: Sexauer & Lemke.
C. & C. Motors.
Stanley Butts.

McKim, Mead & White, Architects.



LIBRARY, SECOND STORY. BAR, FIRST STORY. HARVARD CLUB, NEW YORK.
Lighting Fixtures: Edward F. Caldwell & Co., Inc.



PLUNGE AND SOLARIUM, SEVENTH STORY. HARVARD CLUB, NEW YORK.
McHughwillow Furniture. McKim, Mead & White, Architects.
Tile Plunge: Wm. H. Jackson Co.

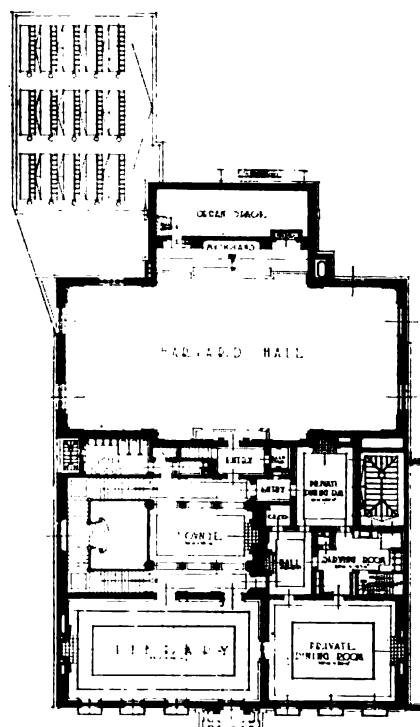
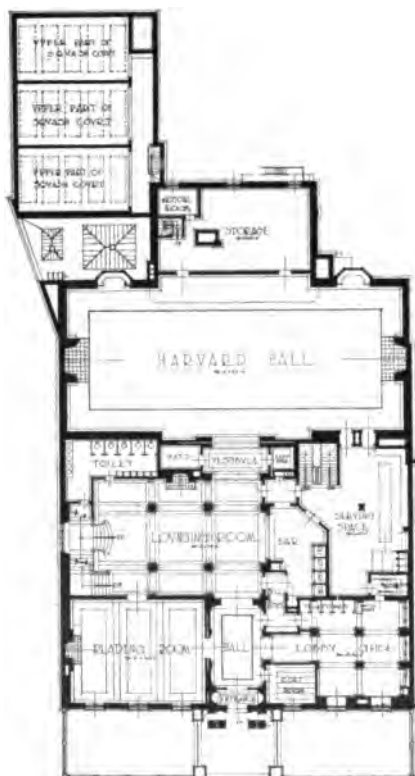


DINING ROOM, FIRST STORY. HARVARD CLUB, NEW YORK.

Tile Floor: Wm. H. Jackson Co.
Lighting Fixtures: Edward F. Caldwell & Co., Inc.
McKim, Mead & White, Architects.



HARVARD HALL. HARVARD CLUB, BOSTON.
Chairs and Tables: Irving & Casson & A. H. Davenport Co. Parker, Thomas & Rice, Architects.



HARVARD CLUB, BOSTON.

Builder: George A. Fuller Co.

A. B. See Electric Elevators.

Chicago Spring Butts.

Plumbing: W. G. Cornell Co.

Fireproof Doors, Windows and Trim: Reliance Fireproof Door Co.

Parker, Thomas & Rice, Architects.



DETROIT ATHLETIC CLUB, DETROIT, MICH.

Photo, L. S. Glover.
Stanley Butta.

Builders: Vinton Co.
Barrett Specification Roof.
Otis Elevators.

Albert Kahn, Architect.
Ernest Wilby, Associate.



LOBBY AND GRILL, FIRST STORY. DETROIT ATHLETIC CLUB.

Lighting Fixtures: Edward F. Caldwell & Co., Inc.
Grill Room Chairs: Marble & Shattuck Chair Co.
Photo, L. S. Glover.
Cutler Mailing System.



MAIN DINING ROOM, SECOND STORY. DETROIT ATHLETIC CLUB.

Drapery Materials: The Orinoka Mills.
Photo, L. S. Glover.

Albert Kahn, Architect.
Ernest Wilby, Associate.



COFFEE ROOM, SECOND STORY, AND PLUNGE, FOURTH STORY. DETROIT ATHLETIC CLUB.

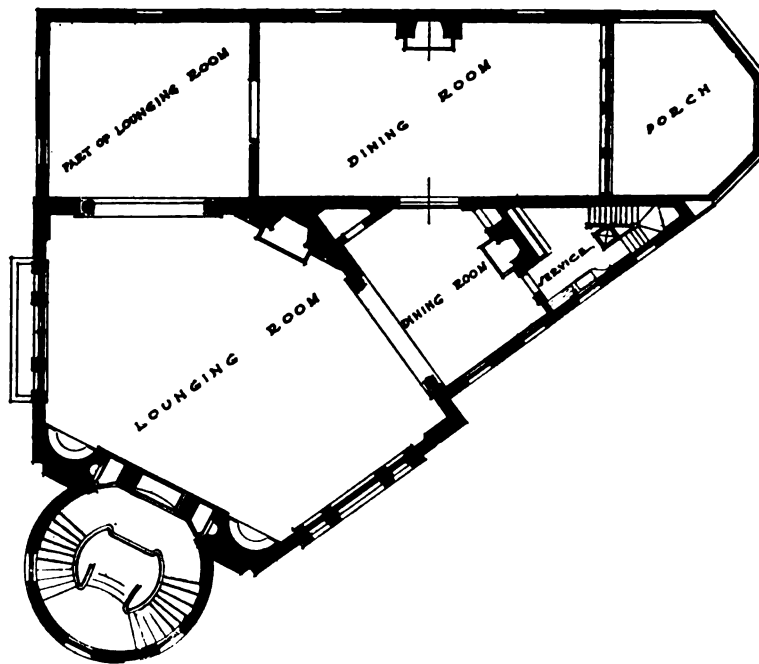
Photo, L. S. Glover.

Tile Plunge: Wm. H. Jackson Co.
Niedecken Shower Mixers.

Albert Kahn, Architect.
Ernest Wilby, Associate.



STAIR WELL, SECOND STORY. CONGRESSIONAL CLUB, WASHINGTON, D. C.
George Oakley Totten, Architect.



CONGRESSIONAL CLUB, WASHINGTON, D. C.

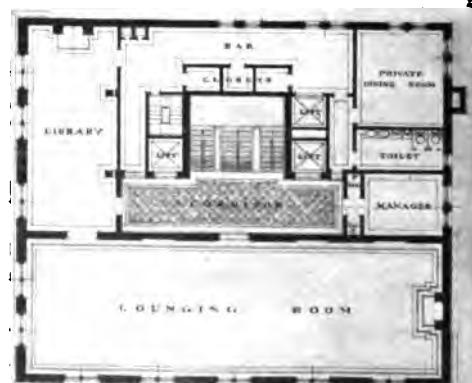
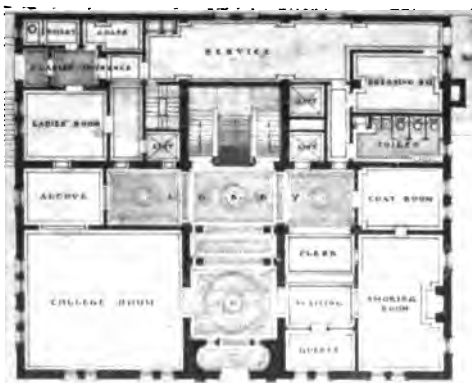
George Oakley Totten, Architect.



UNIVERSITY CLUB, WASHINGTON, D. C.

George Oakley Totten, Architect.





LOUNGE AND PLANS. UNIVERSITY CLUB, WASHINGTON, D. C.

George Oakley Totten, Architect.



Courtesy of Pittsburgh Industrial Development Commission.

MOOSE TEMPLE, PITTSBURGH, PA.

Elevators: The Ohio Elevator & Machine Co.

U. J. L. Peoples, Architect.



MASONIC TEMPLE, COLUMBUS, OHIO.

Elevators: The Ohio Elevator & Machine Co.
Terra Cotta: Northwestern Terra Cotta Co.

Stribling & Lum, Architects.

nishes moderated air for various portions of the building. C. and C. Motors are used for operating the blowers. Mr. Clyde R. Place was the engineer for the heating and ventilating system.

The passenger elevators are of the Otis 1 to 1 traction type and the service elevators are Otis helical gear reduction type.

James Gamble Rogers was the architect of the Yale Club and the builders were Marc Eidlitz & Sons. Geo. Brown & Co. were the cut stone contractors and Harrison & Meyer laid the cement floors and sidewalks. The Wells Architectural Iron Co. did the ornamental iron work of both exterior and interior. John J. Roberts Co. were the plastering contractors and the Barker Painting Co. did the painting. The lighting fixtures were supplied by Edward F. Caldwell & Co., Inc., and the drapery materials for curtains and hangings were made by the Orinoka Mills. The E. Howard Clock Company installed the clock system, and the Newman Watchman Clock System is in use.

HARVARD CLUB, NEW YORK.

The new addition to the Harvard Club about doubles the area of the old building and in connecting the new with the old an extensive redistribution of the spaces was made to better the arrangement. The new wing contains seven stories. In the first story at the rear is the new dining room, commodious and light, with a surrounding gallery on three sides. The second story of the new wing contains a large reading room at one end, while an addition to the library and the upper part of the dining room with its balcony occupies the rest of the space. Upon the third floor the billiard room with four tables occupies the 44th Street side and a private dining room, arranged to be subdivided by folding partitions, the 45th Street side. The fourth and fifth stories are divided into bed room suites, consisting of bed room and bath. The furniture in these rooms is mahogany, the beds of metal and the lighting equipment all portable, affixed to the furniture. The sixth story is used for dressing rooms and squash courts. Upon the sixth mezzanine is the swimming pool.

McKim, Mead & White are the designers of the Harvard Club. Edward F. Caldwell & Co., Inc., designed the lighting fixtures and the tile work, including the swimming pool, was done by the Wm. H. Jackson Company. Sexauer & Lemke did the ornamental iron work, while the lounging room adjoining the pool was furnished with

willow furniture by Joz. P. McHugh & Son. The sleeping rooms are furnished with Whitcomb brass beds.

HARVARD CLUB, BOSTON.

The Harvard Club, Boston, features in its plan a large dining hall, which extends the width of the building and from the first to the fourth stories. The first and second stories provide club room space with lounging rooms, reading room, library and private dining rooms. The third and fourth stories are divided into sleeping rooms, and the fifth story, which covers the central portion of the building and is the only story which extends over the large hall, furnishes additional bed rooms. The basement, with the exception of the billiard room, is used for service, while in a wing at this level, there are three squash courts, with their accompanying dressing rooms.

The building was designed by Parker, Thomas & Rice, and was built by the Geo. A. Fuller Company. The W. G. Cornell Company was the plumbing contractor. A. B. See electric elevators are used. In the dining hall, Irving & Casson and A. H. Davenport Company supplied the chairs and tables.

DETROIT ATHLETIC CLUB.

The Detroit Athletic Club, designed by Albert Kahn, with whom Ernest Wilby was associated, was built by the Vinton Company. The planning of this building is highly specialized. The basement, first and second stories, with first and second mezzanines, provide space for restaurants, lounging rooms, the kitchen, service pantries and work rooms, with a large billiard room, bowling alleys and offices of the management. The main dining rooms, of which there are three, are in the second story, extending through the mezzanine story above. The kitchen occupies the entire rear of the second floor, and in the mezzanine above there are the servants' quarters of the building. The third story contains locker rooms, Turkish baths, card room and private dining rooms. The fourth story, with its two mezzanines, is occupied by the gymnasium, the plunge, hand ball and squash courts. The fifth and sixth stories are divided into the guests' rooms, providing 60 chambers in each story. The circulation of the building is central, with three passenger elevators and three stairways.

Edward F. Caldwell & Co., Inc., did the lighting fixtures. The Wm. H. Jackson Company did the tile work of the swimming pool, and the draperies and hangings were made by the Orinoka Mills.

LIGHTING CLUB ROOMS

By E. LAURENT GODINEZ

The lighting of the club brings up the everlasting fixture problem in a new light. The fixture is no less a "fixture" (in the sense of being a permanent feature) in the environment of the club, than elsewhere, but there is that about club atmosphere which demands a lighting system that will satisfy the majority of members. It should not constitute a perpetual bone of contention to those who are constantly striving to find better ways of spending the club's money.

harmonious relationship of the fixture with its environment, and the reverse. There are some interiors architecturally opposed to the ceiling fixture, yet, in these very interiors, the decorator will take it upon himself to accomplish the impossible. Under such conditions even the most subtle flexibility on the designer's part will not succeed in making the fixture other than an obtrusion. An example of this sort is on this page, and an analysis may prove helpful with reference



It is not possible to abruptly classify lighting applications, or to say when and where the elimination of the fixture is desirable, since such procedure would result in a standardization which would be unalterably opposed to good decorative or architectural expression in any form. It is possible, however, to draw some very suggestive conclusions from the illustrations of club lighting appearing in this issue, some of which illustrate the

to club lighting in general. It is apparent that great care has been exercised in endeavoring to secure a conformity of fixture design with decorative and architectural expression. This endeavor proved futile in this instance owing to the frequency of fixture placement and the resultant monotony. Now monotony will kill almost anything that is good in music, decoration, architecture or lighting. Here, it has effectually marred the charm of

an otherwise effective interior, by a series of dangling contraptions which could not possibly be more inappropriate. It matters not whether the mode of lighting be direct, indirect, or semi-indirect, here is an instance where a fixture of any sort is incongruous and undesirable. But there must be artificial light? Decidedly so, and it is easily obtainable without perpetrating an offense against architecture or decoration. For example, the embrasures, within the boundary line of the wainscoted piers, could be illuminated most effectively from lamps and reflectors concealed within the adjacent cornices of the wainscoting, which are sufficiently high to conceal the mechanism of the

thing entirely from view. In the same way the short projections of these low wainscoted partitions, extending toward the center of the room, could house larger lamps and reflectors, which would illuminate the large central area as effectively as the sides. By a stretch of your imagination try and picture this room devoid of fixtures, and you will be forced to admit the improvement. This is not a plea for indirect lighting, for these fixtures are of that type. But it is a plea for lighting which can be reconciled with the architecture and decoration which it reveals and which is hard to get.



HALLWAY. RUSSELL SAGE FOUNDATION.



FOYER OF CAFE SAVARIN, EQUITABLE BUILDING, NEW YORK.

Kitchen Machinery: Read Machinery Co.

CAFE SAVARIN.

The main restaurant of the new Cafe Savarin occupies the entire front half of the basement of the new Equitable building, which includes in all an area of about 28,000 square feet, divided into three portions with connecting foyers. The total seating capacity is one thousand persons. The principal entrance is from the main basement corridor of the Equitable building, upon which the elevators open, and to which two main stairways lead from the first story corridor. There are additional entrances to the restaurant from Cedar Street and from Pine Street. Adjoining the Pine Street entrance is the approach to the new Savarin bar, which is designed as an oak paneled English tap room.

The kitchen occupies a space between the two dining rooms, with service pantries at either side as an approach to each dining room. The finish of the entire restaurant is in mat glazed faience tile for the floors and walls. The wall tiling is in blue and white, with a decorative tile feature on the faces of all columns and pilasters. The ceilings are plainly finished and lightly tinted so as to assist in the diffusion of the

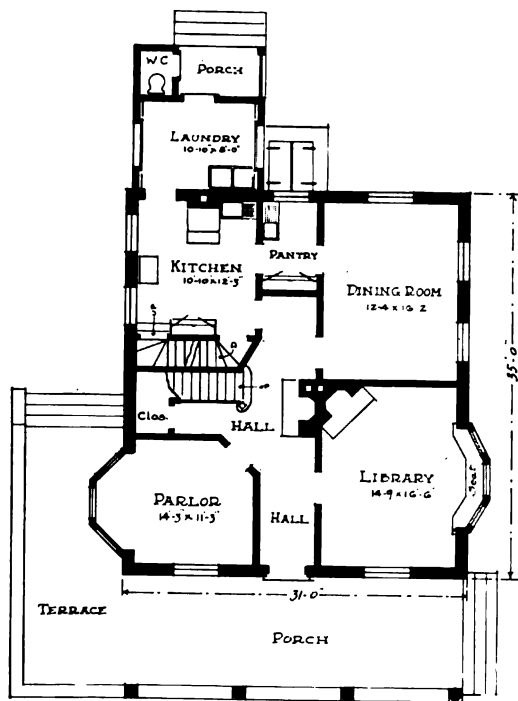
light. The artificial lighting upon which the restaurant is entirely dependent is of cove type, semi-indirect. The lighting fixtures form an ornamental cornice about the pillars and pilasters of the room, and the light is diffused from them by reflectors onto the ceiling, giving a soft, diffused glow over the entire interior with an absence of shadows. The enclosure is of bronze set with panels of opal glass.

F. R. Graham was the architect and John J. Petit was the consulting architect for the tenant, who gave special attention to the mural decorations and the lighting effects. The W. S. Ensign Corporation were the interior contractors and the mat glazed faience tile for the floors and walls was made by the Rookwood Pottery Company. The Elgin A. Simonds Company furnished the chairs. In the kitchen, Duparquet, Huot & Moneuse had charge of the equipment. Lorillard refrigerators were used and the Reed Machinery Company furnished dough mixers, cake and egg beating machines. The equipment of the kitchen is very compact and designed so as to provide in a very small space sufficient service equipment to handle a large volume of trade expeditiously in the rush hours.

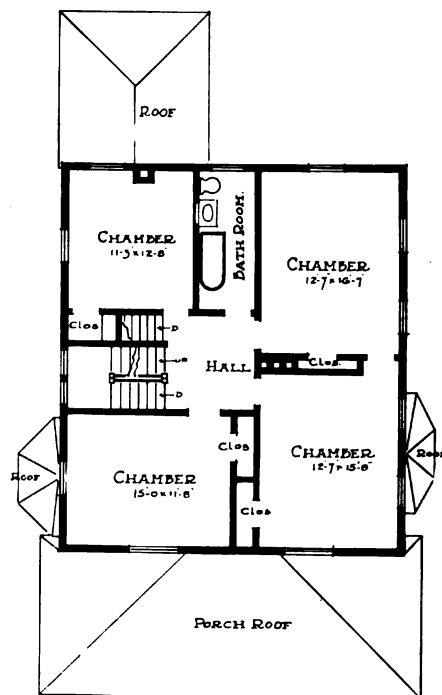


CAFE SAVARIN, EQUITABLE BUILDING, NEW YORK.

Rookwood Pottery Mat Glazed Faience Tile. E. R. Graham, Architect.
 Interior Contractors: W. S. Ensign Corporation. John J. Petit, Consulting Architect for Tenant.
 Chicago Spring Butts.
 Decorations: W. P. Nelson Co.
 Chairs: Elgin A. Simonds Co.
 Fireproof Doors and Trim: Reliance Fireproof Door Co.

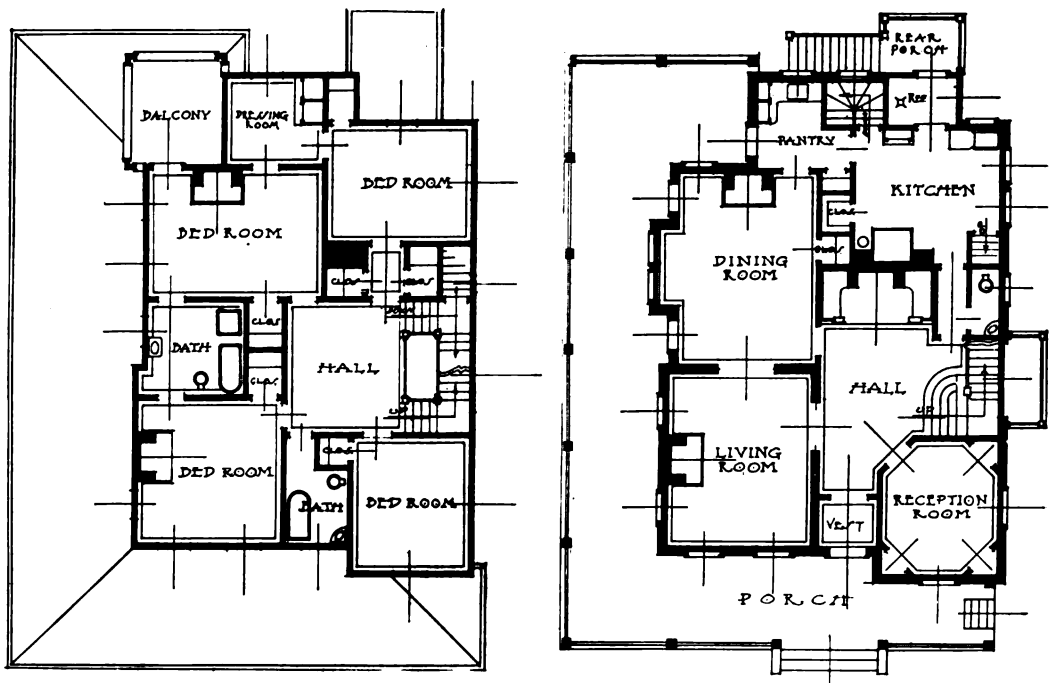


FIRST FLOOR
HOUSE AT BRYN MAWR, PA.



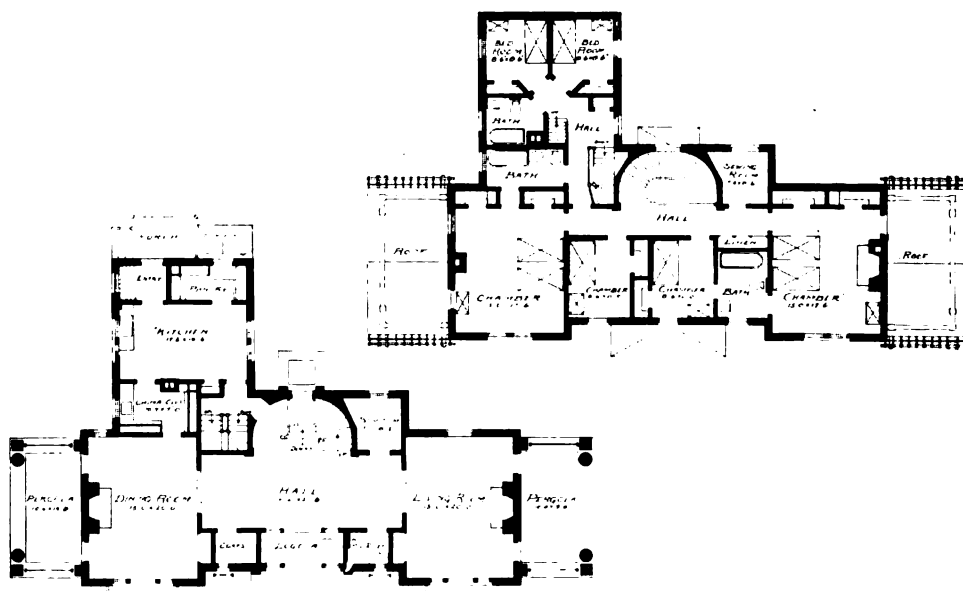
SECOND FLOOR

C. E. Schermerhorn, Architect.



HOUSE AT WHITE PLAINS, NEW YORK.

Beverly S. King, Architect.



HOUSE ON JAMAICAWAY, BOSTON, MASS.

Benjamin Fox, Architect.



**Old
Knickerbocker
Club**

319 Fifth Avenue
New York
Erected in 1871

**New
Knickerbocker Club**

807 Fifth Avenue
New York
Erected in 1915



**Decorations and Furnishings
for both buildings**

Executed by

C. F. STROMEYER CO.

FURNITURE AND UPHOLSTERY
DECORATIVE PAINTING

FOUR EAST NINTH STREET, NEW YORK

Established 1868



YALE CLUB, NEW YORK
Jas. Gamble Rogers, Architect

**ALL PAINTING AND WOOD FINISH-
ING ON THIS BUILDING DONE BY**

The Barker Painting Co.
355 W. 26th Street, New York



This Chair made specially for Hud-
son County Court House, Jersey
City, N. J.

Makers of Fine Chairs for Hotels,
Banks and Public Buildings.

The Marble & Shattuck Chair Company
Cleveland, Ohio

New York Office, 515 Marbridge Bldg., Herald Sq.
Chicago Office, 600 South Michigan Avenue



Irving & Casson
and
A. H. Davenport
Co.

575 Boylston St., Boston
601 Fifth Ave., New York

Custom Furniture
Interior Finish
Wood Mantels
Decorations
and Upholstery

Harvard Club
Boston

Makers of chairs and
tables in Dining Room.

ARCHITECTURE AND BUILDING

ESTABLISHED 1882

CONTENTS FOR DECEMBER, 1915.

| | Page |
|--|------|
| EDITORIAL—TWENTIETH CENTURY IRRESPONSIBILITIES..... | 423 |
| By Theodore Starrett. | |
| CLUB HOUSE BUILDINGS..... | 425 |
| Colony Club, New York City..... | 426 |
| Delano & Aldrich, Architects. | |
| Knickerbocker Club, New York City..... | 427 |
| Delano & Aldrich, Architects. | |
| Yale Club, New York City..... | 431 |
| James Gamble Rogers, Architect. | |
| Harvard Club, New York City..... | 439 |
| McKim, Mead & White, Architects. | |
| Harvard Club, Boston, Mass. | 443 |
| Parker, Thomas & Rice, Architects. | |
| Detroit Athletic Club, Detroit, Mich. | 445 |
| Albert Kahn, Architect. | |
| Congressional Club, Washington, D. C. | 449 |
| George Oakley Totten, Architect. | |
| University Club, Washington, D. C. | 451 |
| George Oakley Totten, Architect. | |
| Moose Club House, Pittsburgh, Pa. | 453 |
| U. J. L. Peoples, Architect. | |
| Masonic Temple, Columbus, Ohio..... | 454 |
| Stribling & Lum, Architects. | |
| PROGRESSIVE ARCHITECTURAL CONSTRUCTION—XVII..... | 454 |
| By Frederick Squires. | |
| LIGHTING CLUB ROOMS..... | 456 |
| By F. Laurent Godinez. | |
| CAFE SAVARIN, EQUITABLE BUILDING, NEW YORK CITY..... | 458 |
| E. R. Graham, Architect. | |
| HOUSE AT BRYN MAWR, PA..... | 460 |
| C. E. Schermerhorn, Architect. | |
| HOUSE AT WHITE PLAINS, NEW YORK..... | 461 |
| Beverley S. King, Architect. | |
| HOUSE ON JAMAICAWAY, BOSTON, MASS. | 462 |
| Benjamin Fox, Architect. | |

PUBLISHED MONTHLY BY

THE WILLIAM T. COMSTOCK COMPANY, 23 Warren Street, NEW YORK
WM. PHILLIPS COMSTOCK, President

ADVERTISING DEPARTMENT
D. R. Gimbel, Manager

EDITORIAL DEPARTMENT
Wm. P. Comstock, Managing Editor

SUBSCRIPTION:

\$2.00 a year in advance for United States and Possessions. Mexico and Cuba. Canada, \$2.50, and other countries, \$3.00. Postage prepaid.

TRADE SUPPLIED BY THE AMERICAN NEWS COMPANY AND ITS BRANCHES
LONDON AGENTS—Wm. Dawson & Sons (Ltd.), Cannon House, Bream's Buildings, London, England.

Copyright, 1915, by The Wm. T. Comstock Co.

Entered as second-class matter, April 4, 1911, at the Post Office at New York, under the Act of March 3, 1879.

The high reputation
of

"CORA"

Lighting Glassware
is built on the
solid foundation of
Service

This includes service to Architects
in the form of suggestions,
sketches and quotations. Our ex-
perience in lighting problems is
yours to command.

**Consolidated
Lamp & Glass Co.**

CORAOPOLIS, PA.

66 West Broadway
New York, N. Y.
402 Kesner Building
Chicago, Ill.

164 Federal Street
Boston, Mass.
233 Sherlock Building
Portland, Ore.

634 Arch Street
Philadelphia, Pa.

523 Main Street
Buffalo, N. Y.

119 East Fifth Street
Cincinnati, Ohio

424 McIntyre Building
Salt Lake City, Utah

347 Pacific Electric Building
Los Angeles, Cal.



No. 1435 "Cora" R. O.
Dia. 5 in., Height 5½ in., Fitter 2¼ in.

J. & J. KOHN'S
Imported Bentwood Furniture.



is used in the finest
hotels, restaurants, con-
cert halls and audito-
riums.

Well suited for the home,
it also has qualities
which make it especially
appropriate for any pub-
lic use where both dura-
bility and artistic de-
sign are essentials.

It is made in so many
different styles that
there is no difficulty in
making selections to
harmonize with the pe-
culiarities of all recog-
nized periods.

Catalogs and literature
can be obtained on re-
quest.

We invite inspections at
any of our showrooms,
with or without appoint-
ment.

Jacob & Josef Kohn, Inc.

Importers of J. & J. Kohn's
World-Famed Bentwood Furniture

110-112 West 27th Street, New York

Grand Rapids
Second Floor, Keeler Bldg.
Seattle
911 Western Avenue

Chicago
1410-1418 S. Wabash Ave.
Toronto, Canada
215-219 Victoria Street



McHughwillow Furniture
In the Solarium,
At the Harvard Club, N.Y.

Characteristic Equipments including
*McHughwillow Furniture, Meadowbrook
Umbrella Tables*, and the awnings were
supplied for the Terrace and Roof of the
Knickerbocker Club also illustrated in this
issue.

Joseph P. McHugh & Son
Original Designers and Actual Makers.
9 West 42nd Street, New York

GILLINDER & SONS, Inc., Philadelphia, Pa.



SEND FOR CATALOGUE

GLASS-MAKERS

MANUFACTURERS OF

Melilite-Glassware

Being used throughout the
Equitable Building, New York

MAIN OFFICE
Tacony, Philadelphia, Pa.

New York
Office

19 Madison
Avenue



To
Clean
or
Remove
Bulb
Just
Unhook
Rod



MEFCOLITE

Semi-Indirect Fixture

FOR

Commercial Lighting

**The Starrett Building, 8 West 40th
St., N. Y., is equipped with
Mefcolite Fixtures.**



This fixture makes a most desirable unit for commercial lighting. The glass bowl is held securely in a strong adjustable ring which is locked in position by one of the supporting arms which dispenses with the use of screws or other clamping devices which cause breakage from expansion unless they are delicately adjusted. The bowls can be easily cleaned on the fixture by unhooking the upper end of one support, thus obviating the handling of the glass bowl or lamp and reducing maintenance cost to a minimum. The supporting rods are adjustable in length by means of a positive locking device which permits the use of any type or size of lamp and when assembled have the appearance of a small link chain. The rods have a narrow edge toward the light, which practically eliminates all ceiling shadows.

Mefcolites are suitable for use with the new nitrogen or standard tungsten lamps. They are the last word in simplicity, neat in appearance, reasonable in cost and thoroughly well made.

Write to-day for prices and particulars regarding various styles and uses.

H. G. McFADDIN & CO., 40 Warren St., N. Y. City



2064

Designed and built specially for new
Savarin Restaurant, Equitable Bldg.,
New York City.

The Elgin A. Simonds Co.
Syracuse, N. Y.

Designers and Builders Special Seating Furni-
ture for Hotels, Clubs and Public Buildings.

The CUTLER MAIL CHUTE



is used in thousands
of buildings in every
part of the United
States, and abroad;
has been for more
than a quarter of a
century, and will
remain the standard
of excellence in every
respect.

The construction
developed in long
experience, as the
only safe one, is pro-
tected by valid li-
gated patents, and
which counsel ad-
vises are being in-
fringed.

You will not know
what our price is until you get it from us and when it
is before you, we shall be favored with your business.

Agents in every important center. Sweet's Index
pages 1726 and 1727.

Cutler Mail Chute Company,
ROCHESTER, N. Y.

A representative will call on request.



Cafe Savarin, Equitable Building, New York City

E. R. GRAHAM, Architect

JOHN J. PETIT, Consulting Architect for the Tenant

Walls and Floors Throughout Finished in Mat Glazed Faience Tile

MADE BY THE

ROOKWOOD POTTERY CO., Main Office and Works **Cincinnati**

Eastern Branch Office—101 Park Avenue, New York

Alphabetical List of Advertisers

| Page | | Page | | Page | |
|--|-------|--------------------------------|----|---------------------------------|-------|
| American Enameled Brick & Tile Co., The..... | 11 | Harrison & Meyer..... | 23 | Read Machinery Co., The..... | 23 |
| Architectural Metal Works.... | 28 | Hartmann-Sanders Co. | 24 | Reliance Fireproof Door Co. . | 23 |
| Ardolino Bros. | 21 | Higgins & Co., Chas. M..... | 26 | Roberts, John J., Co.....IV | Cover |
| | | Hoffmann & Billings Mfg. Co.. | 15 | Rookwood Pottery Co..... | 6 |
| | | | | Ross-Gould.....IV | Cover |
| Barnes Co., W. F. & John..... | 26 | Indiana Flooring Co..... | 22 | | |
| Barrett Mfg. Co., The..... | 19 | Irving & Casson & A. H. Dav- | | | |
| Barker Painting Co., The..... | 2 | enport Co. | 2 | See Electric Elevator Co., The | |
| Blue Ridge Marble Co..... | 13 | | | A. B..... | 13 |
| Bommer Bros. | 16 | Jackson, W. H., Co..... | 36 | Sexauer & Lemke..... | 26 |
| Brown & Co., Geo..... | 15 | Jones, Thomas W..... | 27 | Schleich & Smeraldi..... | 22 |
| Bungalow Magazine. | 26 | | | Simonds, Elgin A., The..... | 6 |
| | | | | Southern Architect and Build- | |
| | | | | ing News. | 29 |
| C. & C. Electric & Mfg. Co.... | 23 | Kimball Co., R. D..... | 21 | Southern Pine Association, | |
| Clark, MacMullen & Riley..... | 21 | Knight, J. N., & Son..... | 28 | III Cover | |
| Collins, Francis W..... | 21 | Kohn, Inc., Jacob & Josef.... | 4 | Spiers Lederle Glass Co., | |
| Consolidated Lamp & Glass Co. | 4 | | | IV Cover | |
| Corcoran, Inc., A. J..... | 22 | Lockwood & Almquist..... | 28 | Standard Paint Co., N. Y., The. | |
| Cutler Mail Chute Co..... | 6 | | | II Cover | |
| | | McFaddin & Co., H. G..... | 5 | Stanley Works, The..... | 16 |
| Dixon Crucible Co., Jos..... | 27 | McHugh, Joseph P., & Son.... | 4 | Star Expansion Bolt Co..... | 16 |
| | | Marble & Shattuck Chair Co., | | Stromeyer, C. F..... | 1 |
| | | The. | 2 | | |
| Ensign, W. S., Corporation, | | Marble Chair Co., The B. L.... | 8 | Tileine Company of America.. | 15 |
| IV Cover | | Morton, Thomas. | 25 | | |
| Estey Bros. Co..... | 8 | Murray & Sorensen..... | 22 | | |
| Evans, F. H..... | 24 | | | United States Mineral Wool Co. | 27 |
| | | | | | |
| | | Newman Clock Co..... | 25 | | |
| Federal Terra Cotta Co..... | 36 | New York Asbestos Co..... | 28 | Washburne & Co., E. G..... | 25 |
| Felton, Sibley & Co.....II | Cover | Northwestern Terra Cotta Co.. | 35 | Wells Architectural Iron Co., | |
| | | | | The. | 11 |
| Gillinder & Sons, Inc..... | 5 | Ohio Elevators, The..... | 26 | Whitcomb Metallic Bedstead | |
| Globe Ventilator Co.....II | Cover | Orinoka Mills, The..... | 14 | Co., The. | 12 |
| Grant Pulley & Hardware Co.. | 35 | Otis Elevator Co..... | 17 | White Metal Bed Co., Inc., | |
| Greenfield, Inc., Arthur..... | 28 | | | IV Cover | |
| Grimmer & Son, Chas..... | 8 | Patterson Publishing Co..... | 26 | Whitner Safety Device Sales | |
| Gustafson Co., Albin..... | 28 | Peters & Son, James..... | — | Co. | 27 |
| | | Place, Clyde R..... | 21 | Wilson Corporation, The, J. G. | 16 |

ZINOLIN
"ZINC, NO LEAD"



745

Guaranteed Chairs

FOR BANKS
FOR HOTELS
FOR LIBRARIES
FOR COURT HOUSES
FOR OTHER PUBLIC BUILDINGS
FOR PUBLIC AND PRIVATE OFFICES

Architects are welcome to our new 1915 catalog

The B. L. Marble Chair Co.
BEDFORD, OHIO



745 1/2



BRONZE STORE FRONT
572 FIFTH AVE., NEW YORK
AUGUSTUS N. ALLEN, Architect

A very delicate and Artistic
Bronze Contract

Executed by

Estey Bros. Co.

270 Union Avenue
Brooklyn, N. Y.
Branch, Montreal

Manufacturers of **HIGH CLASS ARCHITECTURAL BRONZE, BRASS and IRON**

Also BANK CAGES AND WIRE WORK. ELEVATOR CARS AND ELECTROPLATING
ARTISTIC METAL WORK OF EVERY DESCRIPTION

Some contracts are handed to us on a Silver Salver, a few come to us through the recommendation of friends—but 99% of our business is secured because our more than 30 years' experience and our unequalled facilities permit our giving you "Class A" service in PAINTING and INTERIOR DECORATION.

Our factories and showrooms occupy three entire buildings. A representative will call upon request, and you are invited to call and inspect the following stocks on exhibit, which are the largest and most select to be found in New York: Wall Papers, Mantels, Andirons, Lighting Fixtures, Fabrics, Furniture, Mirrors, Antiques, Clocks, Candlesticks, Lamps, Pillows, etc.

Charles Grimmer & Son

Telephones, 7557—7558 Murray Hill

230-234 East 37th Street, NEW YORK

Classified Advertisements

Advertisers May Obtain Headings in this Column at \$5.00 a Year Each

ARCHITECTURAL BRONZE.

Estey Bros. Co., 270 Union Ave., Brooklyn, N. Y.
Gorham Company, The.....New York
Jackson Co., Wm. H....2 W. 47th St., New York
Penn Brass & Bronze Works, 40 Penn St.,
Brooklyn, N. Y.
Polachek Bronze & Iron Works, John,
480 Hancock St., Long Island City, N. Y.

ARCHITECTURAL WOOD CARVING.

Irving & Casson, A. H. Davenport Co,
Boston-New York

AUTOMATIC SPRINKLERS.

Rockwood Sprinkler Co.....Worcester, Mass

AWNINGS, BLINDS, ETC.

Wilson Mfg. Co., Jas. G.,
5 W. 29th St., New York City

BOLTS—Expansion, Machine Expansion, Mooring, Twins, Toggle.

Evans, F. H., 31-35 Hewes St., Brooklyn, N. Y.
Star Expansion Bolt Co., 147-149 Cedar St., N. Y.
Steward & Romaine Mfg. Co.,
124 N. 6th St., Philadelphia, Pa.

BRICK—Enameled, Front, Hollow, Face.

American Enamel Brick & Tile Co.,
1182 Broadway, N. Y.
Carter, Black & Ayers....1182 Broadway, N. Y.
Kittaning Sales Co.....1133 Broadway, N. Y.
Hydraulic Press Brick Co.,
St. Louis, Mo., and Branch Offices

BUILDING CONTRACTORS.

Fuller Co., Geo. A.,
Chicago, New York, Boston, Washington
Miller-Reed Co.....108 Park Ave., N. Y.
Starrett Company, Theodore, 103 Park Ave., N. Y.

CHAIRS, BENTWOOD, ETC.

Kohn, Jacob & Josef.....110 W. 27th St., N. Y.
Marble Chair Co., The B. L.....Bedford, Ohio
Marble & Shattuck Chair Co., The,
Cleveland, Ohio
Simonds Elgin A., The.....Syracuse, N. Y.

CLOCKS—Synchronized, Watchman's.

Lockwood & Almquist, 1 Madison Ave., N. Y.
Newman Clock Co.....178 Fulton St., N. Y.

COLUMNS, KOLL'S PATENT.

Hartmann-Sanders Co.....New York-Chicago
Koll, A. J. Plg Mill Co.....Los Angeles, Cal.

COMPOSITION FLOORS.

Marbleoid Co., The.....47 W. 34th St., N. Y.
Troegerlith Tile Co....11 Broadway, New York
Tileine Co. of America....101 Park Ave., N. Y.

CREOSOTE OIL.

Barrett Mfg. Co.....New York, N. Y.

DECORATORS—INTERIOR.

Chas. Grimmer & Son,
230 E. 37th St., N. Y. City.
W. P. Nelson Co.....Chicago—New York
Schleich & Smeraldi..108 Park Ave., New York

DRAWER SLIDE.

Grant Pulley & Hardware Co.,
8 W. 29th St., N. Y.

DRAWING INKS—(Higgins).

Higgins & Co., Chas. M.,
271 9th St., Brooklyn, N. Y.

DUMB WAITERS.

Otis Elevator Co....11th Ave. & 26th St., N. Y.

ELECTRICAL CONTRACTORS.

Brussel, Dennis G.....39-41 W. 38th St., N. Y.
Gustafson Co., Albin,
34 East 29th St., New York
Livingston & Co., Inc., J.,
70 E. 45th St., New York City

ELEVATORS.

A. B. See Electric Elevator Co., The,
220 Broadway, New York
Otis Elevator Co., 11th Ave. & 26th St., N. Y.
Roberts, James H., Elevator Co.,
430 W. Broadway, N. Y.

ENAMELED BRICK.

American Enamel Brick & Tile Co.,
1182 Broadway, N. Y.

ENGINEERS, ELECTRICAL, CONSULTING, BANK VAULT, ETC.

Balcom & Darrow....10 E. 47th St., New York
Brussel, Dennis G.....39-41 W. 38th St., N. Y.
Collins, Francis W....50 Church St., New York
Kimball Co., R. D....15 W. 38th St., N. Y. City.
Place, Clyde R.....70 E. 45th St., N. Y.
Clark, MacMullen & Riley, 101 Park Ave.,
N. Y. City

EXPANSION BOLTS.

Evans, F. H., 31-35 Hewes St., Brooklyn, N. Y.
Star Expansion Bolt Co....147 Cedar St., N. Y.

FILTERS.

Loomis-Manning Filter Distributing Co.,
828 Land Title Bldg., Philadelphia, Pa.

FIRE DOOR HARDWARE.

Peters & Son, James,
1934 N. Front St., Philadelphia, Pa.

FIREPROOF DOORS AND SHUTTERS.

Grant Pulley and Hardware Co.,
3 West 29th St., New York
Peters & Son, James.....Philadelphia, Pa.

FLOOR AND WOODWORK POLISH.

Felton, Sibley & Co....136 N. 4th St., Phila., Pa.

FLOORS (PARQUET).

Indiana Flooring Co.....234 Rider Ave., N. Y.

GLASS (Leaded).

Spiers Lederle Glass Co.....900 6th Ave., N. Y.

ZINOLIN

"ZINC, NO LEAD"

Classified Advertisements—Continued

GLASS (Wire).

Pennsylvania Wire Glass Co.,
Philadelphia and New York

GLASSWARE—LIGHTING FIXTURES.

Consolidated Lamp & Glass Co.,
Corapolis, Pa., & 66 West Broadway, N. Y.
Gillinder & Sons, Inc., Tacony, Philadelphia, Pa.
McFaddin & Co., H. G. 38 Warren St., New York

GRAPHITE PAINT.

Dixon Crucible Co., Jos. Jersey City, N. J.

HARDWARE.

American Hardware Corporation, The,
New Britain, Conn.
Bommer Bros., 257 Classon Ave., Brooklyn, N. Y.
Chicago Spring Butt Co., Chicago, Ill.; New York
Stanley Works, The, Dept. B.,
New Britain, Conn.

HEATING APPLIANCES. (Also see Boilers.)

Gorton & Lidgerwood Co., 96 Liberty St., N. Y.

HINGES—Spring, Ballbearing, Etc.

Bommer Bros., 257 Classon Ave., Brooklyn, N. Y.
Chicago Spring Butt Co.,
Chicago, Ill.; New York
Stanley Works, The, New Britain, Conn.

INTERIOR TRIM—METAL.

Interior Metal Mfg. Co. Jamestown, N. Y.

IRON—ORNAMENTAL.

Sexauer & Lemke, Vernon & Pierce Aves.,
Long Island City

KITCHEN EQUIPMENT.

Barth & Son, L. 32 Cooper Sq., New York
Bernard Gloekler Co.,
Pittsburgh and New York

LIGHTNING RODS.

Jones, T. W. 22 Burling Slip, N. Y.
Washburne & Co., E. G. 209 Fulton St., N. Y.

LIMESTONE.

Geo. Brown & Co. 286 Fifth Ave., New York

MAIL CHUTES.

Cutler Mail Chute Co. Rochester, N. Y.

MANTELS, FIREPLACES, ETC.

Jackson Co., Wm. H. 2 W. 47th St., N. Y.

MARBLE—EXTERIOR.

Brown & Co., Geo.,
286 Fifth Ave., New York and Newark, N. J.
Georgia Marble Co., Tate, Ga.

MARBLE WORKERS—INTERIOR.

Batterson & Elsele, Architects' Building, N. Y.
Blue Ridge Marble Co., Tate, Ga., and New York
Brown & Co., Geo.,
286 Fifth Ave., New York, and Newark, N. J.
McLaury Co., D. H.,
141st St. & Walton Ave., N. Y.

METAL LATHING.

Greenfield, Inc., Arthur. 204 E. 26th St., N. Y.
Interior Metal Mfg. Co. Jamestown, N. Y.

MINERAL WOOL.

U. S. Mineral Wool Co. 140 Cedar St., N. Y.

PAINTING CONTRACTORS.

Barker Painting Co. 355 W. 26th St., N. Y.
Grimmer, Chas., & Son, 230-234 East 37th St.,
N. Y. City
McKay, Inc., Peter. 167 E 60th St., N. Y.
Nelson Co., W. P. Chicago—New York

PAINTS FOR COATING AND PRESERVING IRON AND STEEL.

Dixon Crucible Co., Jos. Jersey City, N. J.

PAINTS, OILS, VARNISHES, WOOD FILLING, etc.

Dixon Crucible Co., Jos. Jersey City, N. J.
Felton, Sibley & Co.,
136 N. 4th St., Philadelphia, Pa.
Keystone Varnish Co.,
71 Otsego St., Brooklyn, N. Y.
Lowe Bros. Paint Co., The. Dayton, Ohio
Standard Paint Co., N. Y., The,
100 William St., N. Y.
Neven Sparks Lamb, Inc.,
149 Church St., New York

PARTITIONS.

Folding Partition Co., 507 Fifth Ave., New York

PHOTOGRAPHERS.

Cleveland, Stephen G. 23 Warren St., N. Y.

PLUMBING CONTRACTORS.

Cornell Co., W. G. Everett Building, New York

PULLEYS.

Grant Pulley & Hardware Co.,
3 W. 29th St., N. Y.

REFRIGERATORS, PORCELAIN, ETC.

Tettenborn Refrigerator Co. Cincinnati, O.

RINGS (Bridle, Corner Brace, Bridle), Sebco Aerial Star Expansion Bolt Co., 147-149 Cedar St., N. Y.

ROLLING DOORS AND SHUTTERS—Steel.

Grant Pulley and Hardware Co.,
3 W. 29th St., New York City
Wilson Mfg. Co., James G.,
8 W. 40th St., New York

ROOFING AND ROOFING MATERIALS.

Barrett Mfg. Co. New York, N. Y.
Northern Waterproofing Co.,
195 Lexington Ave., New York

SASH CHAINS.

Morton, Thomas. 245 Centre St., N. Y.

SASH PULLEYS—Iron, Brass, Bronze.

Grant Pulley & Hardware Co.,
3 W. 29th St., N. Y.

SCULPTORS.

Ardolino Bros. 108 Park Ave., N. Y.

SHOWER BATHS.

Hoffmann & Billings Mfg. Co. Milwaukee, Wis.

SIGNS, CHANGEABLE, ETC.

Kinney Co., C. M. 3 W. 29th St., N. Y.
U. S. Changeable Sign Co. 3 W. 29th St., N. Y.

ZINOLIN

"ZINC, NO LEAD"

The Gray Mottled (H-90) "American" Enameled Brick



sets a high standard in **QUALITY** and **BEAUTY**.

Its **MOTTLED EFFECT** and **TEXTURE** meet the requirements of prominent Architects.

Although a new achievement, here are a few very recent specifications calling for over 200,000.

That you may fully appreciate the **MOTTLED EFFECT** and **BEAUTY** of this brick, send for samples, either miniature or full size.

Write for catalogue, or see our pages in "Sweet's Index," No. 90-95, 1915 issue

Apartment Building, Nagle Ave., New York City
Messrs. Hunt & Hunt, Architects

Martin School, Canton, Ohio
Mr. Packard, Architect

Burns School, Canton, Ohio
Messrs. C. C. & A. L. Thayer, Architects

Office Building, 36th Street and Broadway, New York City
Messrs. Schwartz & Gross, Architects

AMERICAN ENAMELED BRICK & TILE CO.

MANUFACTURERS OF ENAMELED BRICK EXCLUSIVELY

1182 BROADWAY

NEW YORK, N. Y.



Detailed view
of the
**Ornamental
Iron Stairway
Yale Club
New York**

**Executed
by**

The Wells Architectural Iron Company

Office and Factory : River Avenue and East 151st Street, New York

Classified Advertisements

Continued

SNOW GUARD.

Folsom Snow Guard Co.,
4 Post Office Square, Boston, Mass.

SPRING HINGES.

Bommer Bros....257 Classon Ave., Bklyn, N. Y.
Chicago Spring Butt Co.,
Chicago, Ill.; New York

STEEL SHUTTERS, ROLLING, ETC.

Wilson Mfg. Co., James G.,
5 W. 29th St., New York

SWITCHBOARDS, PANELS, ETC.

Metropolitan Electric Mfg. Co.,
14th St. & East Ave., Long Island City

TANKS.

Corcoran, Inc., A. J.....5 John St., N. Y.

TERRA COTTA.

Federal Terra Cotta Co., 111 Broadway, N. Y.
Northwestern Terra Cotta Co.,
2525 Clybourn Ave., Chicago
South Amboy Terra Cotta Co.,
150 Nassau St., New York

TILE.

Jackson Co., Wm. H., 2 West 47th St., N. Y.

VENETIAN BLINDS.

Wilson Mfg. Co., Jas. G.,
3 W. 29th St., New York

VENTILATING RIDGING.

Globe Ventilator Co.....Troy, N. Y.

VENTILATORS.

Globe Ventilator Co.....Troy, N. Y.
Washburne & Co., E. G....209 Fulton St., N. Y.

WALL FINISHES—FLAT, ETC.

Keystone Varnish Co.,
71 Otsego St., Brooklyn, N. Y.

WATER FILTERS.

Loomis-Manning Filter Co.,
823 Land Title Bldg., Philadelphia, Pa.

WEATHER VANES.

Jones, Thos. W.....153 Maiden Lane, N. Y.
Washburne & Co., E. G.,
209 Fulton St., N. Y.

WINDOWS—METAL.

Interior Metal Mfg. Co.....Jamestown, N. Y.
Reliance Fireproof Door Co..30 E. 42d St. N. Y.

WOOD PRESERVATIVE (ANTHRASOTA).

Barrett Mfg. Co.....New York, N. Y.

WOOD WORK.

Schleich & Smeraldi.....103 Park Ave., N. Y.

WOOD-WORKING MACHINERY.

Barnes Co., W. F. & John,
568 Ruby St., Rockford, Ill.

ZINOLIN

"ZINC, NO LEAD"

Whitcomb Beds in the Harvard Club



THE Harvard Club is equipped with Whitcomb Brass Beds and Bedding, selected above all others as best suited to the most modernly appointed club in the country—just as Whitcomb Beds were chosen for the Biltmore and other leading hotels.

The Whitcomb Beds in The Harvard Club are heavy brass, seamless tubed beds, the result of the finest materials and workmanship—beds of distinctive dignity and solidity, chosen for their comfort and wear value, as well as for their beauty. They are of a new, antique brass finish and the head post is made to receive an electric light socket.

We work out beds of special design and finish to meet the ideas of architects. We should be pleased to take up with you the matter of bed equipment.

The Whitcomb Metallic Bedstead Co.

Factory: Shelton, Conn.

DISPLAY ROOMS

New York, 34th Street and Madison Avenue
Philadelphia, 1710 Chestnut Street
Boston, 90 Washington Street



A. B. See Electric Elevators

Harvard Club
Boston, Mass.

Equipped with
Electric Elevators

Manufactured and Installed by

The A. B. See Electric Elevator Co.
Main Office: 220 Broadway, New York

WASHINGTON
Real Estate Trust Building
14th and H Sts., N. W.

HARTFORD
Connecticut Mutual Life Building
26 Pearl St.

PHILADELPHIA
Land Title Building
Broad and Chestnut Sts.

BOSTON
Mint Building
111 Devonshire St.

BALTIMORE
Stock Exchange Building
201 East German St.

MONTREAL: 70-72 Mansfield St.

TORONTO: Sun Life Building

Factory, Pacific Avenue and Forest Street, Jersey City, N. J.

CLEVELAND
Citizens Building
818 Euclid Ave.



Utah State Capitol, Salt Lake City

GEORGIA MARBLE

is extensively used for

Interior Work

as well as Exterior.

Utah's new Capitol just being
completed is finished through-
out in Georgia Marble furnished
and installed by

The Blue Ridge Marble Co.

New York Office
1328 Broadway

Main Office and Works
Nelson, Ga.



Window of Lounge
hung with Orinoka Sunfast Fabrics

In the
YALE
Club

Many of the draperies and furniture coverings in this most modern club, selected by the decorators, Messrs. W. & J. Sloane, are

ORINOKA
Guaranteed
SUNFAST
DRAPERIES and
UPHOLSTERIES

When planning a room, a home, or a public building where beauty, durability, and absolute color fastness would count, do not fail to see America's leading line of Draperies and Upholsteries.

THE ORINOKA MILLS
215 Fourth Avenue, New York



**Vestibule of stone, Sage
Memorial Foundation.
New York**

**The entire exterior and
all interior stone work**

Executed by

**GEORGE BROWN
& CO.**

**INTERIOR MARBLE WORK
OF EVERY DESCRIPTION**

**OFFICE, 286 FIFTH AVENUE
New York City**

TILEINE

The Universal Flooring

TILEINE POINTS: Absolutely the best plastic flooring; adopted by U. S. Bureau of Standards; durability guaranteed by Aetna Maintenance Guaranty Bonds; sanitary and fireproof; resilient under foot; beautiful to the eye; colorings permanent; adaptable for new buildings and for alterations in old buildings.

TILEINE is laid solely by expert workmen in the exclusive employ of this Company. They are master-craftsmen — men who know their work and do it with superlative skill. TILEINE success is due largely to expert method in laying.

Every architect, every builder, every private owner, should send for our free carton of TILEINE samples.

Tileine Company of America

Architects' Building

559 West 36th St., New York City

SHOWERS

WITH THE INCOMPARABLE

NIEDECKEN MIXER

INSTALLED IN THE

**DETROIT ATHLETIC
CLUB**



Hoffmann & Billings Mfg. Co.

MILWAUKEE

Write for Bulletin A. B. 5

WILSON

VENETIAN BLINDS



Among the buildings recently equipped with Wilson Venetian Blinds:

McAlpin Hotel
New York City

Hotel Taft
New Haven, Conn.

Vanderbilt Hotel
New York

Models on view at salesroom.

Send for Venetian catalogue D-3

THE J. G. WILSON CORPORATION

8 West 46th St.,
New York

Also manufacturers of Rolling Steel Shutters and Wood and Steel Rolling Doors and Partitions.

Something for Every Building



Be Sure— Specify SEBCO

Expansion Bolts and Screw Anchors for fastening "anything" "anywhere." Their use insures a quick and substantial job.

SEBCO EXPANSION BOLTS SCREW ANCHORS

are TIME, LABOR and MONEY SAVERS. They assure the quickest, cheapest and most secure means of fastening all kinds of supports, brackets and fixtures to walls, floors or ceilings of brick, stone, concrete, tile or any material in which a hole can be made.

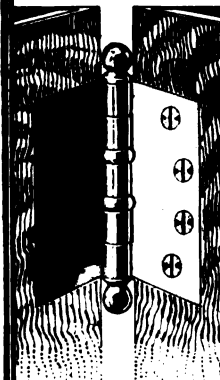
They are made of a non corroding material and will NOT rust; therefore can be used below water, under ground, out of doors, or in hot or cold places.

**STAR EXPANSION
BOLT CO.**

147 Cedar Street

NEW YORK

Stanley



Butts for Metal Doors



Holes accurately drilled to Template to insure perfect fit.

Made with Non-Rising Pins and equipped with Ball Bearings.

Write for full information regarding styles, sizes, finishes, etc.

To "Dept. B"

See our catalog on pages 796, 797, 798 and 799 in "Sweet's"

THE STANLEY WORKS, New Britain, Conn.

*Yes! the world does move!
facts are stubborn things*



Don't
specify
Spring
Hinges
of obsolete
construction
Only



BOMMER

DOUBLE ACTING

Spring Butt Hinges

have the weight-supporting bearings correctly located to liberate the action of the springs, reducing breakage, increasing spring power, and giving practically unlimited durability.

Bommer Spring Butt Hinges can be obtained from all hardware dealers and lock companies

Bommer Bros., Mfrs., Brooklyn, N. Y.



Detroit Athletic Club, Detroit, Mich.

Architect: Albert Kahn
Associate: Ernest Wilby

General Contractors:
Vinton Company

OTIS EQUIPMENT

3 Electric Worm Gear Traction Passenger Elevators—from basement to 6th floor (one lifting safes of 5000 lbs.).
1 Electric Drum Type Passenger Elevator—from basement to 4th floor.

1 Electric Drum Type Elevator—from basement to 2nd floor.
2 Electric Push Button Dumbwaiters from basement to roof—11 doors and 11 landings.

One Essential

The first purpose of every Club is to provide every comfort possible for its members. Any Club is certain to fail of its purpose if not equipped to give unfailing elevator service.

One essential in making the new Detroit Athletic Club the finest in the country to date is its equipment of

OTIS ELEVATORS

There may be many desirable features of this Club, that for one reason or another you cannot adopt in your plans for club buildings, but you can always make your plans provide the par of this Club in elevator service. There are Otis Elevators to meet all the different requirements of all different classes and sizes of buildings.

OTIS ELEVATOR COMPANY

Eleventh Avenue and Twenty-Sixth Street, New York

Offices in All Principal Cities of the World

BOOK REVIEWS

THE BUILDING ESTIMATOR'S REFERENCE BOOK.—By Frank R. Walker, published by the author, flexible leather pocket-book. $4\frac{1}{2} \times 7$ inches, 612 pages. Illustrated. Price, \$10.00. Sent on five days' approval at publisher's expense.

This book represents information on actual costs and methods which the author has collected on construction work with which he has himself been connected. The buildings referred to are located in several different parts of the country and many of them were in charge of the author during construction. The author vouches for the reliability of his information and points out that the information is up to date and that the costs do not represent costs prevailing ten years ago, but the costs of today. He has reduced all costs to actual hours per unit of measure, so that the costs may be applied to any rate of wage. The costs on reinforced concrete work and on all branches of work from excavating to painter's finishing are included. There is cost data on plain and ornamental plastering, interior and exterior marble work, interior tiling, floors, wainscoting, ornamental iron, brass and bronze. In fact, there is cost data on every particular that enters into building construction.

While this work represents the experience of one man, these are of sufficient variety to make the book extremely valuable to the estimator and contractor. The data is accurate and given with sufficient range to cover a variation of labor quantities and material costs. The illustrations are chosen to show the variety of the types of building construction covered and elements of material employed.

The subjects of the twenty-six chapters are as follows: General Conditions and Overhead Expense; Wrecking and Excavating, Caissons, Lagging and Concrete, Wood and Concrete Piles; Concrete for Footings and Foundations; Water and Damp Proofing; Concrete Floors and Pavements; Reinforced Concrete Construction; Brick Masonry; Rubble Work, Cut Stone, Granite and Architectural Terra Cotta; Hollow Tile Fireproofing; Rough Carpentry, Timber Framing, Lumber, Flooring, etc.; Mill Work and Interior Finish; Plastering; Fire Retarding Doors and Windows; Sheet Metal Work, etc.; Roofing, Slate, Tile, Composition, etc.; Exterior and Interior Marble, Slate and Scagliola; Interior Tiling, Floors, Wainscoting, Mantels, etc.; Glass and Glazing; Painting and Varnishing; Structural Iron and Steel; Miscellaneous and Ornamental Iron.

Brass and Bronze; Miscellaneous Building Specialties, Vault Doors, Prismatic Sidewalk Lights, Blackboards, etc.; Rough and Finish Hardware; Plumbing, Sewerage and Gas Fitting; Steam and Hot Water Heating; Electric Wiring.

SIMPLIFIED REINFORCED CONCRETE MATHEMATICS.—By Melvin D. Casler, B. E., New York D. Van Nostrand Co., Cloth, $5 \times 7\frac{1}{2}$ inches, sixty-six pages, ten figures. Price, \$1.00 net.

The purpose of this book is to provide practical working formulas for the design and investigation of reinforced concrete members. The formulas proposed are derived for general application to beams subjected to longitudinal stress in conjunction with transverse moment, to eccentrically loaded columns and to arches. One of the objects of the author is to simplify formulas without detracting from their mathematical accuracy. The methods developed in this book effect a large saving of time over prevalent methods of computation. The four chapters cover the derivation of formulas, labor-saving devices, illustrative examples and general notes on reinforced concrete design.

HICKS' SPECIFICATION BLANKS FOR FRAME OR BRICK BUILDINGS.—By I. P. Hicks, New York David Williams Company, paper, eight pages and cover. Price, \$25.

This specification is arranged to cover all the work apt to be called for in erecting residences, churches, schools and other small public buildings in various sections of the country. The specification is divided under nine heads and is provided with blanks for filling in all particulars.

PERSPECTIVE, AN ELEMENTARY TEXT BOOK.—By Ben J. Lubsch, Second Edition enlarged, New York D. Van Nostrand Co., Cloth, $5 \times 7\frac{1}{2}$ inches, 100 pages, 36 figures. Price, \$1.50 net.

This is a home study book written for the man who can get little outside assistance. It is intended as the starter in the subject of perspective. It is a step to further things. It is to qualify him for the reading and study of more profound books on the subjects. Since the appearance of the first edition in 1913, there has been a demand for the elaboration of the book. Hence in this second edition there are three new chapters and several additions. (Continued on page 20.)

KEYSTON
FLAT FINISH
KEYSTON

*Barrett
Specification
Roofs*



*Architects: Bonfoey and
Elliott, Tampa, Florida
General Contractors:
McGucken and Hyer,
Tampa, Florida
Roofers: Eagle Roofing
and Art Metal Works,
Tampa, Florida*

On Tampa's New City Hall—

TAMPA is building this fine, new city hall at a cost of several hundred thousand dollars. The plans were open to competition and this interesting design was the winner. The size and nature of the contract naturally attracted the ablest architects and as the first-class architects of the country appreciate the superiority of Barrett Specification Roofs, this type was selected to cover the Tampa City Hall.

This is a cycle of reasoning which has become increasingly familiar during the last few years. If it is a large or first-class building it attracts first-class architects and engineers, and the preference of such men is almost always for Barrett Specification Roofs.

That is why you can select at random any

large, important, public or commercial building anywhere in the United States that has been built within the past ten years and find, almost invariably, that it has a Barrett Specification Roof.

Such a roof is the lowest priced of all permanent roofs. It requires no care or maintenance expense and is good for upwards of twenty years without repairs. It takes the base rate of fire insurance and is approved by the Underwriters' Laboratories.

You can have a roof exactly like that on the Tampa City Hall by writing The Barrett Specification in full into your building plans.

Copy of The Barrett Specification on request.

Special Note—We advise incorporating in plans the full wording of The Barrett Specification, in order to avoid any misunderstanding. If any abbreviated form is desired, however, the following is suggested:

ROOFING—Shall be a Barrett Specification Roof laid as directed in printed Specification, revised August 15, 1911, using the materials specified and subject to the inspection requirement.

BARRETT MANUFACTURING COMPANY

New York Chicago Philadelphia Boston St. Louis Cleveland Cincinnati
Pittsburgh Detroit Birmingham Kansas City Minneapolis Salt Lake City Seattle Peoria
THE PATTERSON MANUFACTURING CO., Limited Montreal Toronto Winnipeg
Vancouver St. John, N. B. Halifax, N. S. Sydney, N. S.



ditional plates. These give a more advanced discussion of inclined lines and planes and the perspective of shadows. There has also been added, for convenience in drafting room use, a table of conjugate vanishing points with corresponding measuring points for different angles of view and points of station.

POWER FOR PROFIT.—By Reginald Peigham Bolton. The R. P. Bolton Company, New York. Cloth, 8 x 11, 210 pages. Price, \$2.50, postpaid.

This new book by Mr. Bolton is a companion volume to his "Building for Profit" and in it the author discusses the principals governing the use of machinery and labor in modern buildings. He presents the subject in an informing and readable manner, free from technicalities. It is a usable book for the owners of buildings, operators in real estate, managers of buildings, builders and architects.

The cost and the life of machinery in modern buildings and their operating conditions, are analyzed in the interests of income-producing real estate as well as from the point of view of institutions and of municipal ownership.

Analyses are given of the much-discussed value of exhaust steam for heating purposes, and of electric energy regarded as a by-product of steam.

Some of the wastage and negligence which lead to excessive expense in maintaining improved real estate are described. The presentment of the subject is directed towards a reconsideration of existing combinations of machinery by analysis and reduction of such wastages, by the adoption of improved methods and apparatus, or the utilization of public systems of service. These considerations are applied to steam and gas, as well as to electricity.

The subject matter of the book is divided into fifteen chapters as follows:

Counting the Cost; Power and the Man; Labor Related to Power; Public Systems of Service; Public and Domestic Competition; The Use and Waste of Energy; Combinations of Machinery and Labor; The Proportions of Machinery and Labor; Household Power Plants; Limits of Heating Work and Value; The Life of Machinery and Labor; The Depreciation of Labor; Overhead and Contingent Costs; Power in Institutional and Municipal Buildings; Indirect Ownership and Operation.

KEYSTONE
FLAT FINISH
KEYSTONE

Advertisements—When writing Advertisers, please mention Architecture and Building.

Art and Architecture

MEANING OF STYLE IN FRENCH ARCHITECTURE.

Synopsis of Lecture Delivered Before the French Institute Nov. 16, 1915.

It is since the emancipation of the lower classes by the Revolution of 1789 that the architect began to work with the knowledge of the architecture of previous epochs, which we term style. The parvenue saw their ambitions grow beyond all bounds. The architect had to comply with their wishes and accept the castle of Marquis So and So or the hotel of Duke So and So, not only for inspiration, but occasionally as a model. However, with instruction becoming obligatory, and with the advent of prominent artists and very keen critics, among others, Viollet le Duc, people began to realize that dress does not make the man. The research of the indefatigable generation of earnest artists brought about some inestimable results. They discovered the guiding principles which today we use to advantage to give our structures whatever character is fitting, according to the program, without resorting either to Gothic, if it is a church, or Louis XIV, if it is a reception parlor, etc. What are those principles?

The critic showed us very clearly that the religious character of the cathedral lies not in its crochets or pinnacles, but in the lofty



C. & C. MOTOR DRIVING VENTILATING BLOWER IN MECHANICAL PLANT OF THE YALE CLUB.

ENGINEERS' DIRECTORY

proportions of its naves, which were partly dictated by construction itself and partly resulted from the observation of the impressive, surrounding nature. Saint Eustache, of Paris, is wholly Gothic in its masses and proportions, and only in its details, or, so to speak, its dress, Renaissance.

The Louis XIV style went a long way toward expressing self-confidence, a majestic grandeur, allied to riches checked by good taste.

Louis XV introduced a charming note in the interior decoration, which is to us moderns a very fine lesson, inasmuch as it shows that an artist can borrow his elements of the most humble subjects, such as the simple lattice in the pergola.

The main vestibule of the Court House in Paris writes in indelible letters the democracy, sincerity, simple grandeur, as understood by the epoch of Louis XVI. Today we make use of the above-named principles, and we can make an impressive church without copying any gargoyles, or any of the so-called Gothic ornaments, and inspire dignity in our public buildings without copying Versailles, and make charming interiors without servilely copying the Louis XV, because all those principles were derived from nature, wherein we must always go for fresh inspiration and for the rejuvenation of art. D. Varon.

The Department of the Interior, Bureau of Mines, has issued Technical Paper 112, The Explosibility of Acetylene and Technical Paper 116, Miners' Wash and Change Houses. A limited supply of these publications is available for free distribution, and they may be obtained by addressing the Director of the Bureau of Mines, Washington, D. C.

FRANCIS W. COLLINS

Assoc. Mem. A. S. C. E.
Mem. A. I. M. E.

CONSULTING ENGINEER

50 CHURCH ST., HUDSON TERMINAL
NEW YORK CITY

Investigations, Valuations,
Scientific Organization and Management

Clark, MacMullen & Riley

CONSULTING ENGINEERS

Electrical, Heating,
Ventilating, Sanitary

101 Park Avenue

NEW YORK

CLYDE R. PLACE

CONSULTING ENGINEER

Mechanical
Electrical
Sanitary

GRAND CENTRAL TERMINAL

RICHARD D. KIMBALL CO.

Consulting Engineers

Heating, Ventilation, Electrical, Sanitary

15 W. 38th St., New York, N. Y.
6 Beacon St., Boston, Mass.



CARVED
STONE
DETAIL
RESIDENCE OF
MR. HENRY
C. FRICK,
NEW YORK
Thomas
Hastings,
Architect

Executed by

ARDOLINO BROTHERS
ARCHITECTURAL SCULPTORS
206 E. 33d Street, New York

Branches: Boston Toronto Chicago

Some of Our Recent Contracts:

New York Post Office, McKim, Mead & White, Architects.
Scottish Rites Temple, Washington, D. C., John Russell Pope, Architect.
Fields Museum, Chicago, D. H. Burnham & Co., Architects.
Notre Dame Church, New York, Cross & Cross, Architects.

Advertisements—When writing Advertisers, please mention Architecture and Building.

SCHLEICH & SMERALDI

Decorators

WOOD-WORK UPHOLSTERY
FURNITURE

Special Designs Furnished

103 Park Avenue NEW YORK

Industrial Progress

In the new apartment house erected at No. 400 Park Avenue, and in the bath rooms installed in the alteration of the Waldorf-Astoria Hotel, the unit closet flush valve manufactured by Murray & Sorensen was installed. This unit lever handle flush valve is guaranteed to work from 5 pound pressure up. This firm also manufacture unit push button flush valves and other sanitary specialties as well as architectural brass and bronze work. They are located at 352 Pearl Street, N. Y. City, and are in a position to quote on all work.

Commencing January 1, 1916, the American Enameled Brick and Tile Company will occupy new offices in the Vanderbilt Concourse Building, 52 Vanderbilt Avenue, N. Y. City. With this date, the newly organized Hay, Walker Brick Company of New York, with adjoining offices, will be the selling agents of

IT'S A CORCORAN TANK

The tank that stays watertight. They are easy to put together. Any workman can assemble the various parts so carefully and accurately are they made. No riveting of bands, no calking of seams—everything simple—and the whole tank watertight without white lead or metal lining. We use iron—a special iron—for our Bands, and our Booklet A & B tells why.

For 50 Years, A. J. Corcoran, Inc., 5 John Street, New York



Indiana Flooring Company

Wood Floors

Oak Pine
Maple Parquet, etc.

234 Rider Avenue, New York, N. Y.

281 B St., N. W., Washington, D. C.
166 Devonshire St., Boston, Mass.

the American Enameled Brick products in the Metropolitan district. Mr. Andred A. Ayers and Mr. Wm. G. Black, formerly of Carter, Black & Ayres, will be associated with the new Hay, Walker organization. Mr. J. Francis Booraem is secretary and treasurer and Mr. C. A. Gardner, general sales manager of the American Enameled Brick and Tile Company.

The National Metal Molding Company have issued a cloth-backed wall hanger giving the standard sizes of conduits for the installation of wires and cables, adopted and recommended by the National Electrical Contractors' Association of the United States and required by the National Electric Code. The presentation is graphic with the drawings at one-half size. In various panels they represent single wire, two, three and four wire systems, convertible system, duplex wire and signal systems. This chart is of value to architects and contractors who figure on electrical work.

ERRATUM.

On pages 355 and 358 of the October issue of Architecture and Building, illustrations of the new Brooklyn Trust Co.'s Building was presented. The marble work for the interior of this banking room was carried out by Wm. Bradley & Sons, Cut Stone and Marble Contractors of 547 to 571 Vernon Avenue, Long Island City, N. Y. Because of misinformation, we stated that this interior marble work was done by the firm of Batterson & Eisele, and we wish to take this opportunity to correct the error.

THE UNIT CLOSET FLUSH VALVE

The Unit Lever Handle Flush Valve. Guaranteed to Work from Five Pounds Up. Tank Pressure.

MURRAY & SORENSEN

Unit Push
Button Flush Valve

Sanitary Specialties. Brass Founders and Finishers.
352 Pearl St., New York Roxbury, Conn.

Unit Lever Handle Flush Valve





YALE CLUB, NEW YORK
Jas. Gamble Rogers, Architect

Harrison & Meyer

1182 Broadway, New York

Contractors for Cement Floors throughout, and
Cement Sidewalks for this building

Kalamein Iron, Bronze and Copper Covered Doors, Windows, Trim, Etc.

have been installed
in the

Harvard Club, Boston
Arcadia Cafe, Philadelphia
Cafe Savarin, New York
Colony Club, New York

Illustrated in this issue
by

RELIANCE FIREPROOF DOOR CO.

West & Milton Sts. and Greenpoint Ave.

BROOKLYN, N. Y.

Descriptive catalogue sent upon request.



Read 3 Speed Kitchen Machine

The Read Machinery Co.

YORK, PA.



C & C Fan and Blower Motors

C & C Motors are used almost exclusively for driving fans and blowers in the largest ventilating systems, designed by the most prominent engineers.

They are the heart of the great air and heat circulating systems of the Yale Club, Woolworth Building, Metropolitan Life Building, Grand Central Terminal and many others of the largest in New York.

Open construction and greatly increased radiating surface have given C & C Motors the reliable characteristics that have gained the confidence of the engineering public.

Write for Bulletins.

C & C Electric & Mfg. Co.

Main Offices & Works

GARWOOD, N. J.

Boston New York Philadelphia Chicago
Representatives in all principal cities 118

Architects and Builders should investigate **EVANS "CRESCENT" EXPANSION BOLTS**



WITH DOUBLE END GRIP EXPANSION

Constructed on NEW lines. Grip at BOTH ENDS, and on ALL sides. Cannot work loose.

Send for Catalogue and samples screwed into blocks of wood or stone

Agencies in all large cities

F. H. EVANS

(Patentee and Sole Manufacturer)

31-33-35 Hewes St., Brooklyn, N. Y.

CAMPAIGN FOR PERMANENT TARIFF COMMISSION.

The campaign for the establishment of a permanent non-partisan Tariff Commission was launched successfully at the luncheon meeting of the Members' Council of The Merchants' Association on Thursday, December 9.

The 926 business men of New York who attended the luncheon, indicated their desire for the creation of the commission in the attention which they gave to the speeches and in the applause with which they greeted the arguments advanced for the commission.

The speeches made by Mr. Henry R. Towne, Mr. John H. Fahey and Senator Thomas P. Gore contain the facts with regard to the campaign to establish a permanent non-partisan Tariff Commission, and the arguments in its favor. A vigorous campaign is to be made for the creation of this commission.

COMPETITION.

An architectural competition of the most practical kind will be held in connection with the First American Complete Building Show, in Cleveland, O., Feb. 16 to 26, under the direction of the Cleveland Chapter A. I. A., in co-operation with the Chamber of Commerce, Cleveland Art Association, Builders' Exchange, Society Advocating Fire Elimination and other civic bodies.

The competition is for a workingmen's home to cost not more than \$3,000 complete, exclusive of land and embellishments. There are seven prizes, the first being \$200. The contest is open to all materials.

Rules of the competition call for six rooms, with basement under entire house. It is the aim of the committee to obtain designs that are in every way practical, and awards will be made upon this basis.

All drawings must be in by February 1.

Instructions regarding the contest may be had by applying to The Complete Building Show Company, 356 Leader-News Bldg., Cleveland, O.

CIVIL SERVICE EXAMINATIONS.

January 18—Civil Engineer for position in Philippine service. Salary ranging from \$1,800 to \$3,000. Apply for form B. I. A. 2.

January 19—Sanitary Engineer position in Bureau of Science, Manila. P. I. Salary \$1,600. Apply for form B. I. A. 2.

January 19 and 20—Structural Engineer and Draftsman, Office of the Supervising Architect, Treasury Department, Washington, D. C. Salary \$1,800. Apply for form 1312.

January 25—Designer of Marine Engines, Boilers and Machinery. Engineer Department at large. Salary \$2,400 to \$3,000. Apply for form 2118.

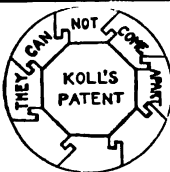
Make application for these examinations to the U. S. Civil Service Commission, Washington, D. C., stating the title of examination for which the form is desired.

SAN DIEGO EXPOSITION TO CONTINUE THROUGH 1916.

Through the enterprise of the business men of Los Angeles, a sufficient sum has been contributed to insure the running of the San Diego Exposition for another year. Its attractions will be greatly increased by exhibits removed from the San Francisco Exposition and a great many new concessions will be installed on its "Isthmus."

(Continued on page 28.)

KEYSTONE
FLAT FINISH



Koll's Patent Lock Joint Columns

Suitable for Porches, Pergolas or Interior use are made exclusively by

HARTMANN-SANDERS CO.

2155-57 Elston Avenue, CHICAGO, ILL.

Eastern Office, 6 East 39th St., New York

A new and very complete catalogue of columns will be sent on request. Ask for "O" 40.

American School Building Standards

By WILBUR T. MILLS, Architect

With introduction by W. O. Thompson, D. D.,
President, Ohio State University.

The most complete, authentic, conveniently arranged and substantially bound handbook on school buildings. One hundred designs, selected with the utmost care from every section in the United States, representing the work of 56 architects, including the work of well-known school specialists. Illustrated by exteriors, interiors, plans, statement of cost and other valuable data. Second edition, revised and enlarged.

616 pages, profusely illustrated; flexible leather; pocket size. \$5.00 net

The William T. Comstock Co.
23 Warren Street New York



Yale Club
"NEWMAN EQUIPPED"

Records show that our device has been selected by leading architects in over fifty per cent. of the cases where watch-clocks were specified during the present year.

NEWMAN CLOCK CO.

Makers of Watchman's Clocks for 40 years
New York Chicago

The New-
man Grille
Model
Watch-
man's Clock
System
provides an
absolute
check on
human
fallibility.

Thomas Morton

245 Centre Street,

New York.

Copper Cable
Steel
Champion Metal
Steel Champion

SASH CHAINS.

CHAINS For Suspending Heavy Doors, Gates, Etc.
ALL of SUPERIOR QUALITY.

Building Construction and Superintendence

Part II. Carpenters' Work.
Six Dollars a Volume

Part III. Trussed Roofs.
Three Dollars a Volume

By F. E. KIDDER, C. E., Ph.D., Architect

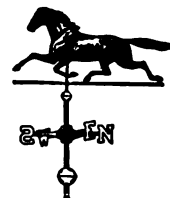
THE WM. T. COMSTOCK CO., Publisher, 23 WARREN STREET, NEW YORK



WEATHER VANES

The proper and useful ornament for the garage, barn or tower. Send for catalogue of silhouette weather vanes, showing many designs. Also protect your property against lightning. We install a perfect system of protection that does not mar the appearance of the house. Write for particulars and our literature.

E. G. WASHBURN & CO., 209 Fulton St., New York



Advertisements—When writing Advertisers, please mention Architecture and Building.

Work Shops



Of wood and metal workers,
without steam power, equipped
with

BARNES' FOOT POWER MACHINERY

allow lower bids on jobs and
give greater profit on the work.
Machines sent on trial if desired.

Catalogue free

W. F. & John Barnes Co.
566 Ruby Street, Rockford, Ill.

HIGGINS'

**DRAWING INKS
ETERNAL WRITING INK
ENGROSSING INK
TAURINE MUCILAGE
PHOTO MOUNTER PASTE
DRAWING BOARD PASTE
LIQUID PASTE
OFFICE PASTE
VEGETABLE GLUE, Etc.**



Are the Finest and Best Inks and Adhesives

Emancipate yourself from the use of corrosive
and ill-smelling inks and adhesives and adopt
the Higgins' Inks and Adhesives. They
will be a revelation to you, they are so sweet,
clean and well put up.

At Dealers Generally

CHAS. M. HIGGINS & CO., Mfrs.
Branches: Chicago, London



BUNGALOW MAGAZINE

is an indispensable guide to both the architect
and the home builder in their search for the
ideal home. It is the clearing house for the new-
est ideas in design, construction, decoration and
furnishing of homes—all facts—no fiction.

**ONCE YOU READ IT
YOU'LL ALWAYS NEED IT**

Send 25c. for a Sample Copy, or \$1.00
for six months' trial subscription.

BUNGALOW MAGAZINE is regularly \$2.50 a
year in U. S.; \$3.00 in Canada, and \$3.50 in foreign
countries.

Write to-day.

BUNGALOW MAGAZINE
76 Columbia Street Seattle, Wash.

SCIENTIFIC BUILDING OPERATION

260 pages of practical data on the
management and operation of large
buildings.

Of Particular Value to Architects

Read the list of subjects covered,
written by men actually operating
buildings:

| | |
|----------------|-----------------|
| Management | Janitor Service |
| Renting | Repairs |
| Accounting and | Buying Supplies |
| Reports | Elevators |
| Operation | Insurance |

SPECIAL OFFER

Price of this book is \$2.50. Mention
Architecture and Building, and we
will send it to you for \$2.00 postpaid.

Sample copy of Buildings and Build-
ing Management, only magazine
published dealing with operation of
large buildings, sent upon request.

Patterson Publishing Co.

939 City Hall Square Bldg., CHICAGO

The OHIO ELEVATORS

are used by

The Masonic Temple

Stribling and Lum
Architects

Columbus, O.

The Athletic Club

Richards, McCarty and Bulford
Architects

Columbus, O.

The Moose Club Pittsburgh, Pa.

There must be a reason. Why?—Safety, Service,
Economy. Write us about Elevators.

THE OHIO ELEVATOR & MACHINE CO., Columbus, O.


Sexauer & Lemke

MANUFACTURERS OF

**Architectural and Ornamental
Iron Work for Buildings
Patent Sheet Steel Stairs**

OFFICE AND WORKS
VERNON AND PIERCE AVENUES
LONG ISLAND CITY

MINERAL WOOL
FIRE SOUND VERMIN PROOF



CHEAP AND EASILY APPLIED
United States Mineral Wool Co.
140 CEDAR STREET, NEW YORK
SAMPLES FREE



YALE CLUB, NEW YORK
Equipped with Window Safety Belts
Manufactured by
WHITNER SAFETY DEVICE SALES CO.
20 VESEY STREET, NEW YORK
The Equitable Building, Vanderbilt Concourse Building and Harvard Club are also equipped with our Safety Devices.

Weather Vanes
Lightning Rods
Church Crosses
Flag Poles
and Fittings Etc.



Send for Catalogue
THOS. W. JONES
153 Maiden Lane
New York
Telephone Connection



—But Don't Expect Best PROTECTION from a paint containing free silica. There are many graphite paints but there is only one paint with a pigment of "silica-graphite." Nature has provided

DIXON'S SILICA GRAPHITE PAINT

with a pigment unlike that of any other. The fine particles of silica and the thin flakes of graphite are so intimately associated that mixed with pure boiled linseed oil, it does not settle into a hard mass. More important, though, is the even distribution of oil and pigment, and therefore the longest service protection. Get detailed information concerning your paint requirements. Write for booklet No. 6-B to the

Joseph Dixon Crucible Co.
Jersey City, N. J.



YALE CLUB, NEW YORK

J. N. Knight & Son PLUMBERS

136 West 50th Street, New York

Established 1883

I. MORITZ, Prop.

Telephone 164 Plaza

Architectural Metal Works

SKYLIGHTS

CORNICES AND ROOFING
CORRUGATED IRON WORK

1192-1194 SECOND AVENUE

NEW YORK

ALBIN GUSTAFSON COMPANY

Electrical Contractors

34 EAST 29th STREET

NEW YORK

LOCKWOOD & ALMQUIST, Inc.

TIME SERVICE ENGINEERS

Automatic Elevator Dispatcher
Clock Systems, Special Timing Devices

Send for Cat. No. 22 112 E. 19th St., N. Y. City

ARTHUR GREENFIELD, Incorporated

REINFORCED CONCRETE FLOORS
IRON FURRING and METAL LATHING

Telephone Connection

204 EAST 26th ST.

NEW YORK

KEYSTONE FLAT FINISH KEYSTONE

On December 15, there was a discussion at a public meeting of the Municipal Arts Society on certain aspects of architecture, sculpture, color harmonies, out-door lighting and landscape gardening of the Panama-Pacific Exposition. The discussion brought out the success of the daring architectural experiment which the Exposition presented and the feeling prevailed that architecture and its allied arts will take a distinct step forward because of the possibilities indicated by the exhibition development.

American Churches

Comprising reproductions of recently constructed American churches, showing exteriors, interiors, plans, pulpits, lecterns, altars, choir stalls, stained and leaded glass, etc.

Also a preface by Ralph Adams Cram and articles by William H. Goodyear, Rev. Robert Ellis Jones, Professor Wallace C. Sabine, D. D. Kimball, F. A. Patison.

500 plate and text illustrations.

Bound in purple silk, printed on heavy coated paper.

Two volumes, price per set.....\$15.00
Single volumes.....\$7.50

The Wm. T. Comstock Co.

23 Warren Street, New York

NEW YORK ASBESTOS CO.

*Contractors for*Covering Steam, Brine, Hot
and Cold Water Pipes, Boilers,
Flues, Ducts, Furnaces, etc.

FROST PROOFING. MINERAL WOOL.

203 Front St., New York

Asbestos Supplies

The Principles of Elegance and Good Taste in Furnishing The Home or Apartment INTERIOR DECORATION

ITS PRINCIPLES AND PRACTICE

By **FRANK ALVAH PARSONS**

President of the New York School of Fine and Applied Arts

**Of This Book
The New York
Times says:**

"This work, written by a recognized authority, may be summed up as a standard book of information for the general public. It is exceedingly simple in its statements of basic principle, explains the principles of color, form, balance, the uses of various textures, scales and motifs. He goes into the vexing 'little things' of modern house decoration and takes up the famous 'periods.' 'Interior Decoration' is a volume for the average householder—the man or woman, whether with large or small expenditure, who wants to learn the principles on which a living place may be made beautiful. It is very beautifully illustrated."

69 Illustrations. Net \$3.00.

MAIL THIS TO-DAY

The
William
T. Comstock
Company,
23 Warren St.,
New York City

Gentlemen:
Send me copies
of Mr. Parsons' new book,
"Interior Decoration," for which
I agree to remit \$3.00 (plus postage),
upon receipt of bill.

Name
Address

TWO BOOKS FREE TO ARCHITECTS AND BUILDERS

Southern Colonial Homes

This is a collection of high class pictures of the finest types of Colonial Architecture in the South. Many of the houses shown are historic. The plates are made from fine photographs and this collection is invaluable to every architect and builder.

Modern School Buildings

This book contains a model collection of school buildings, varying in price from \$2,000 to \$7,000. Elevations and floor plans are shown in detail. The book will prove a business asset to every architect and builder.

The SOUTHERN ARCHITECT AND BUILDING NEWS has been for 25 years the only architectural and building paper of the entire South. Each issue contains 100 large pages, beautifully illustrated. The price is only \$2.00 per year, but both the above books will be sent free to each new subscriber. This is the best \$2.00 value ever offered the architect and builder. Send check to-day. Both books will be sent at once and the paper one year. Address:

SOUTHERN ARCHITECT AND BUILDING NEWS

Box 1598, Atlanta, Ga.



AMERICAN RENAISSANCE

A REVIEW OF
DOMESTIC ARCHITECTURE
WITH
MANY COLONIAL EXAMPLES
BY
JOY WHEELER DOW
Architect

It is a carefully prepared history of American Domestic Architecture from Colonial days and illustrated in the most elaborate manner.

CONTENTS

- Chapter I. Ethics.
- II. Art and Commercialism.
- III. The Ancient Regime and—Andrew Jackson.
- IV. Humble Beginnings of a National School.
- V. The Grand Epoch.
- VI. Early Nineteenth Century Work.
- VII. The Transitional Period.
- VIII. Reign of Terror—Its Negative Value.
- IX. Fashion in Architecture.
- X. Adaptation.
- XI. Concerning Style.
- XII. Conclusion and Index.

182 pages and 96 plates with 139 illustrations. Handsomely bound in cloth, Gilt Top. Price, \$4.00.

The William T. Comstock Company
23 Warren Street, New York



LATEST BOOKS

THE ART OF LANDSCAPE ARCHITECTURE, Its Development and Its Application to Modern Landscape Gardening. By Samuel Parsons, F. A. S. L. A.

The object of this book is to set forth the underlying principles of the practice of landscape gardening and gives many practical suggestions as to the treatment of lawns, gardens, parks, etc. 347 pages, 57 illustrations, cloth, net.....\$3.50

A HISTORY OF ARCHITECTURE. Volume I—Antiquity; Volume II—Romanesque and Oriental. By Russell Sturgis, A. M., Ph.D. Volume III—Gothic in Italy, France and Northern Europe; Volume IV—Gothic in Great Britain—Renaissance—Modern Architecture. By A. L. Frothingham, late Professor of Archaeology and History of Art, Princeton University.

A standard work, beautifully illustrated, the most extensive study of architecture in the English language. A work that architects and those interested in the study of architecture should possess. The volumes contain about 400 pages each, are bound in two styles, blue cloth with gold stamping and tops, half Morocco with cloth sides. The paper is heavy coated, of fine quality, reproducing the illustrations to the best advantage, deckle edge, type large and clear, and a complete index at the end of Volume IV. Price of the four volumes in cloth. Net\$20.00
In half Morocco. Net\$30.00

DURAND, A PARALLEL OF ARCHITECTURE.

Being examples of the most celebrated buildings in the world, drawn to uniform scale. The reprint will contain 90 plates, being a complete reproduction of the original work. Portfolio form\$15.00
Bound form\$18.00

RIVINGTON'S NOTES ON BUILDING CONSTRUCTION. Edited by W. N. Twelvetrees.

A book of reference for architects and builders, and a text book for students. New edition, entirely rewritten. Part I, 306 pages, 484 illustrations. Cloth. Net.....\$2.25
Part II, 352 pages, 395 illustrations. Cloth. Net.....\$2.25

PERSPECTIVE, An Elementary Text Book. By Ben J. Lubschez, A. I. A.

This book is intended to aid the student so that he will be able to solve the ordinary problems of every day practice and with careful study will enable him to lay out an ordinary perspective accurately and without help. Second edition enlarged, 100 pages, with full page plates. Cloth. Net\$1.50

SIMPLIFIED REINFORCED CONCRETE MATHEMATICS. By Melvin C. Casler, B. E.

The main purpose of this booklet is to provide practical working formulas for the design and investigation of reinforced concrete members, and means for applying these formulas with a minimum of laborious computations. 66 pages. Cloth. Net.....\$1.25

THE BUILDING ESTIMATOR'S REFERENCE BOOK. By Frank R. Walker.

A practical and thoroughly reliable reference book for contractors and estimators engaged in estimating the cost of and construction of all classes of modern buildings. Giving the actual labor costs and methods employed in the erection of some of our present day structures, together with all necessary material prices and labor quantities entering into the costs of all classes of buildings. 612 pages; profusely illustrated. Leather, gilt edges\$10.00

SPECIFICATION BLANKS FOR FRAME OR BRICK BUILDINGS. By I. P. Hicks.

Arranged to cover all the work apt to be called for in erecting residences, churches, schools and other small public buildings in various sections of the country. 8 pages, 7 x 10 in. Paper, 25c. Per dozen\$2.50

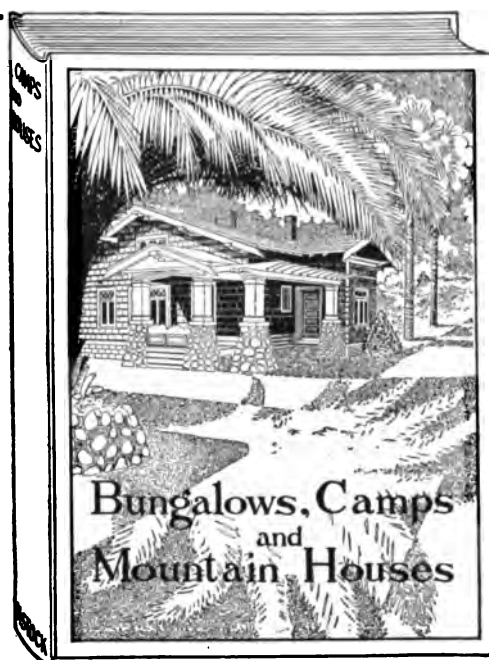
THE WM. T. COMSTOCK CO.

23 Warren Street

NEW YORK

The Best Book of Bungalows

THIS is the new revised and enlarged edition of "**Bungalows, Camps and Mountain Houses,**" This book presents the thoughts and ideas of 32 different architects, all recognized designers of Bungalows. The new edition contains 200 illustrations, showing 80 designs with exteriors, interiors and plans.



(7½ x 10¼ actual size)

"Planning the Bungalow"

A feature of the new edition is the article by Mr. C. E. Schermerhorn, A. A. I. A. It is a condensed account of the requirements for planning a bungalow. It contains a plate showing 22 different schemes for laying out the floor plans of a bungalow, and in addition a lot of little detail sketches showing how to plan conveniences in the house, such as built in furniture, kitchen arrangements, closet space, cupboards, etc.



Part I---Bungalows

Part II---Bungalows of Cottage Type

Part III---Camps, Lodges, Log Cabins

The subject matter is treated in these three parts. The first shows the true bungalow; the second, the bungalow with a second story, and the third, lodges and log cabins suitable for the mountains, lake side and seashore. Descriptive text accompanies the illustrations giving costs and telling the kinds of materials used.

200 Illustrations, 80 Designs, 126 Pages 7½x10¼, Cloth, Price \$2.00

THE WILLIAM T. COMSTOCK CO.

Publishers

23 Warren Street, New York

Building Construction and Superintendence

By **FRANK E. KIDDER, C. E., Ph. D., Architect**

Part I.—MASON'S WORK, Ninth Edition.

New and enlarged, thoroughly revised and rewritten by THOMAS NOLAN, M. S., A. M., Prof. Arch., University Pennsylvania. New chapters on FIREPROOFING, CONCRETE, both reinforced and plain. Foundations showing most approved work in recent structures, etc. 965 pp., 628 illustrations, cloth. Price, **\$6.00**

Part II.—CARPENTER'S WORK, Ninth Edition.

Enlarged and thoroughly revised by THOMAS NOLAN, M. S., A. M. Treating on Wood Framing—sheathing, windows, outside door frames, interior woodwork, rough work, finish, floors, heavy framing, builders' hardware and the large variety of detail that the subject covers. Over 950 pp., 830 illustrations, cloth. Price, **\$6.00**

Part III.—TRUSSED ROOFS and ROOF TRUSSES Second Edition.

This part describes nearly every type of roof construction commonly met with in buildings, pointing out the advantages of different types of wooden and steel trusses for different spans and building requirements. Special attention is given to description of wooden trusses and steel trusses, in order to make the work of practical value to the architect, draughtsman and builder. 294 pp., 306 illustrations, cloth. Price, **\$3.00**

THE
WILLIAM T. COMSTOCK COMPANY
23 Warren Street **New York**

ARCHITECTURE AND BUILDING

*Will be
published
in its large,
New Size,
9 by 12 in.,
commencing
January, 1916
Vol. 48, No. 1
issued
monthly,
as heretofore*

The new page offers an increased opportunity to show detail in large illustrations and the folding detail plates will be presented in a size 12 x 17 inches.

In addition to the usual illustrated text as heretofore each issue will contain 10 page plates and 1 large detail plate.

It will be the aim of the editors to present carefully chosen illustrations of contemporary architectural construction and opportune literary comment.

A feature will be the **Dwelling House Series** at least two plates of which will appear in each issue. A new cover illustration each month will show a design chosen for its architectural merit and beauty.

The price of ARCHITECTURE AND BUILDING will be 25c. a copy or \$2.50 a year in advance (mailed flat) for United States and Possessions, Mexico and Cuba. Current subscriptions will be continued until expiration at the old rate.

New Book on →

Invaluable for the Architect, Engineer, Owner, Contractor and all who have to do with Building Construction.

A Consideration of the Mutual Rights, Duties and Liabilities of Architect, Owner and Contractor, with Appendices and Forms.

Mr. Embury in his introduction tells of some of the legal pitfalls into which an architect may fall. His remarks on his personal experiences are entertaining reading as well as a valuable recommendation for the book. He says "I am going to fix the general principles of law in its relations to the architect, builder and owner, firmly in mind . . ." It is the idea of this book to give the architect information so that he may safeguard himself against dangerous practices, it is not to teach him to be his own lawyer.

The author in his Preface states that this book originated from a series of articles which he contributed to "Architecture" during the years 1913 and 1914. He says, "My endeavor, in general, has been twofold: First, to provide a text which will enable the architect, owner or contractor, to understand or readily ascertain his respective duties and liabilities, and the elementary and general legal rules which govern them; second, to make the discussion of various points treated sufficiently detailed and technical so that it may be of aid to the legal, as well as to the architectural profession. For this reason especially, the citation of authorities has been made as thorough and as comprehensive as possible."

The Law of Architecture and Building

By Clinton H. Blake, Jr., A. B., A. M., LL. B.
of the New York and Federal Bars
With a special introduction by Aymar Embury II.

CONTENTS

INTRODUCTION PREFACE

Part I. The Architect and the Owner.

- Chapter I—The Relationship in General.
- " II—The Architect as Agent of the Owner.
- " III—The Compensation of the Architect.
- " IV—Duties and Liabilities of the Architect.
- " V—Death of Architect and Ownership of Plans.

Part II. Owner and Builder.

- Chapter I—In General.
- " II—Requisites of Construction Contract.
- " III—Terms and Operations of Building Contract.
- " IV—The Standard Documents.

Part III. Liens.

- Chapter I—In General.
- " II—The Lien of the Architect.
- " III—The Lien of the Contractor.
- " IV—The Lien of the Subcontractor.

Part IV. The Architect and the Contractor—Conclusion.

- Chapter I—The Architect and the Contractor.
- II—Conclusion.

APPENDICES

- Appendix A—Decisions for Reference Readings.
- " B—The Standard Documents of the American Institute of Architects.
- " C—The Rules of Professional Practice of Architects and Schedule of Minimum Charges, as Approved by the American Institute of Architects.
- " D—A Circular of Advice Relative to Principles of Professional Practice.
- " E—Schedule of Charges, New York Chapter, A. I. A.

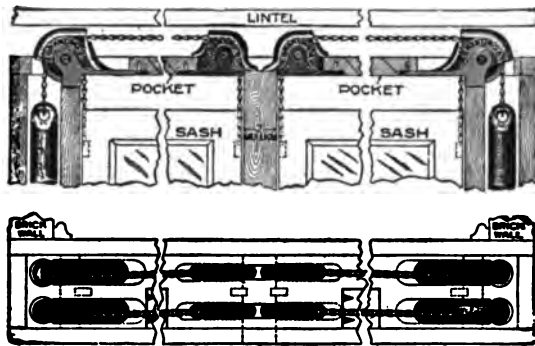
FORMS

352 pages. Cloth, \$3.00

The Wm. T. Comstock Company, Publishers

23 WARREN STREET, NEW YORK

Advertisements—When writing Advertisers, please mention Architecture and Building.



Grant Pulleys for Twin Windows

The Overhead Pulley obviates the use of lead weights, as it gives more pocket room. These pulleys can be used in single, mullion, triplet and quadruple windows.

Grant Pulley & Hardware Co.

**3 WEST 29th STREET
NEW YORK CITY**

**Write
for
Catalogue
and
Discounts**



THE

DIAMOND

**TUBULAR BALL BEARING
DOOR HANGERS**

This Hanger requires less space than other hangers.

Is easily installed and quickly adjusted.

Dirt or dust cannot lodge in the track.

**“NORTHWESTERN”
ARCHITECTURAL TERRA COTTA**

MADE BY

**THE NORTHWESTERN
TERRA COTTA CO.**

FACTORY AND MAIN OFFICE 2525 CLYBOURN AVE.

CHICAGO, ILL.



Standard Arcade

New York City

Severance & Van Alen, Architects
Cauldwell-Wingate Co., Builders

The Terra Cotta in the New Street piers and cornice, and in the ceilings is of marble color and texture exactly matching the South Dover marble adjacent.

MANUFACTURED BY

**Federal Terra Cotta
Company**

Trinity Building, NEW YORK
Kresge Building, DETROIT



THE SWIMMING POOL OF THE HARVARD CLUB

shown above, was furnished and installed under the supervision of the architects McKim, Mead & White and Marc Eidlitz & Sons, Builders, together with all other tile work throughout the building

BY

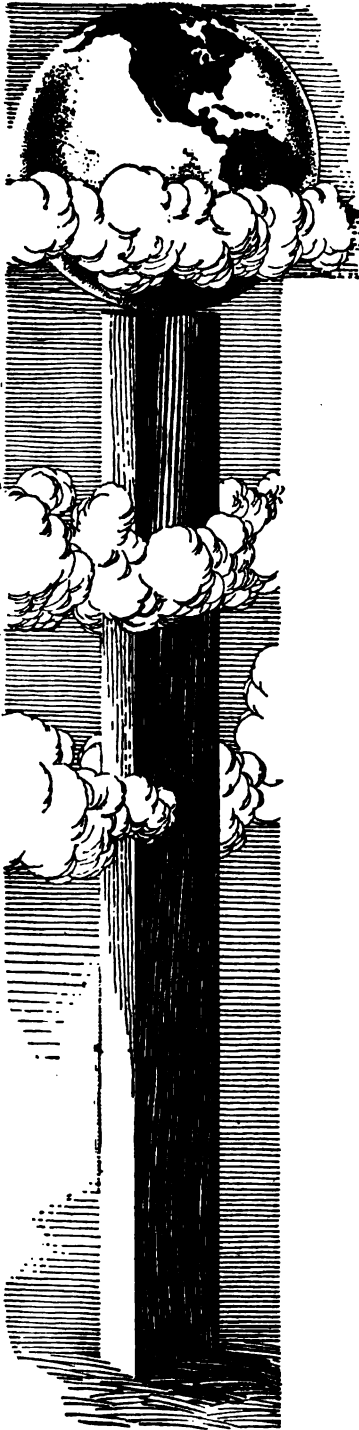
Wm. H. Jackson Company

902 South Michigan Ave.
Chicago, Ill.

2 West 47th Street, New York City

New Birks Building
Montreal, Canada

GETTING WHAT YOU SPECIFY—



EVERY ARCHITECT AND STRUCTURAL ENGINEER KNOWS the superlative qualities of sound, dependable Southern Yellow Pine used as beams, studding, sills, sleepers, joists, girders, trusses, columns—in heavy construction of every character.

NO OTHER MATERIAL combines in such a happy degree and in such perfect proportion the properties of cross-breaking strength, resistance to impact, strength under compression, and resistance to shear.

THE ONLY INSTANCES where Southern Yellow Pine timbers have failed under legitimate maximum working stresses have been where inferior grades of material have been substituted for material specified.

UNDER THE NEW RULES for standardizing sizes and grades in Southern Yellow Pine timbers, recently perfected and adopted by the Southern Pine Association, grading is reduced to an exact mathematical calculation and assured absolute dependability in quality. That means the complete elimination of future uncertainty in specifying Southern Yellow Pine for exacting use.

THE SOUTHERN PINE ASSOCIATION'S MANUAL OF STANDARD WOOD CONSTRUCTION, revised and enlarged, with new Grading Rules, Building Codes, Working Formulae, Effects of Creosoting, etc., is now in press and practically ready for delivery. Send for your copy.



Southern Pine Association

NEW ORLEANS

JOHN J. ROBERTS CO.
PLASTERERS

Contractors for the Plain and Ornamental Plaster Work in the Yale Club, New York

**Office and Ornamental Shop,
334 East 27th Street,
New York City**

WHITE METAL BED CO., Inc.

MANUFACTURERS OF HIGH GRADE

Metal Bedsteads, Cribs and Costumers

Office and Factory
404-406-408 East 94th Street
New York

W. S. ENSIGN CORPORATION

141-147 FIFTH AVENUE, NEW YORK

INTERIOR CONTRACTORS

**For Furniture, Carpets, Curtains, China, Glassware,
Linen, Bedding, etc.**

Furnishers to Hotels, Clubs, Restaurants, Steamships, Railroads, Hospitals and Institutions. Ask for Estimate.

The interior equipment for the Cafe Savarin (Equitable Building, New York. Merry & Boomer, Proprietors) furnished by us.

Do Business by Mail

Start with accurate lists of names we furnish—
build solidly. Choose from the following or any
others desired.

Apron Mfrs. Wealthy Men
Cheese Box Mfrs. Ice Mfrs.
Shoe Retailers Doctors
Tin Can Mfrs. Axe Grease Mfrs.
Druggists Railroad Employees
Auto Owners Contractors

Our complete book of mailing statistics on 7000 classes of prospective customers free.

Ross-Gould, 834 W. Olive St. St. Louis.

Ross-Gould
Mailing
Lists St. Louis

Stained Glass

000

**Set in Lead, Copper, Bronze and Zinc
Bars, Colored and Decorative Glass
for all purposes.**

Spiers Lederle Glass Co.
900 Sixth Avenue, New York

